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JUNE 11
1936

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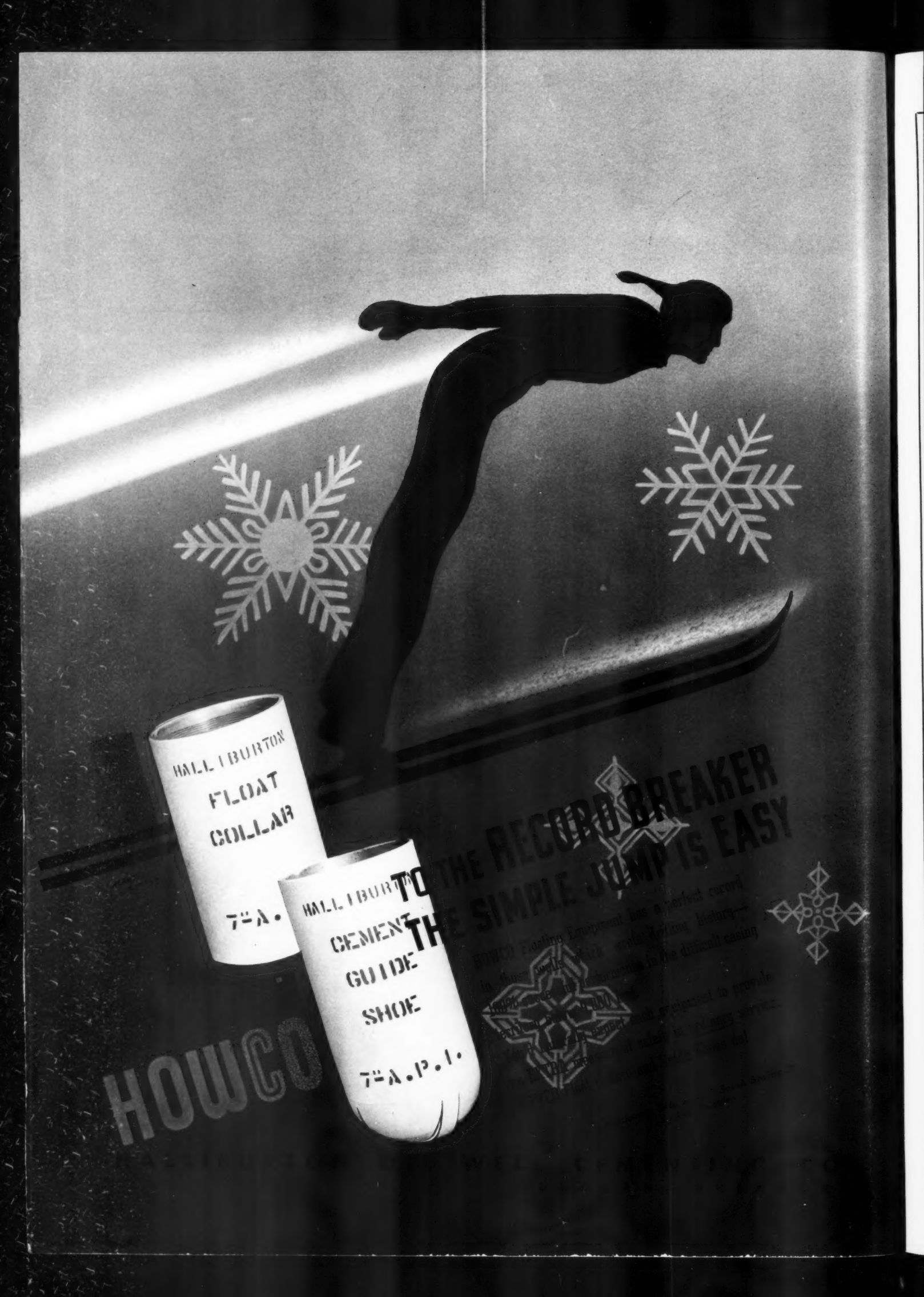
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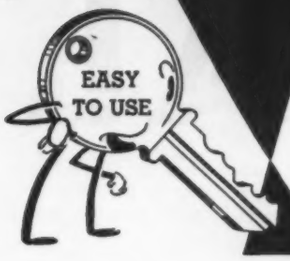
7 KEYS to profits



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Brakes on Production Are Needed Now

SALES reports in hand make it clear that gasoline demand in May recorded an all-time peak for that month. June has made a good start, and there is every evidence that consumption of motor fuel in 1936 will surpass all previous records. To what degree the immense business promised will be turned into the profits needed to make up for losses refiners suffered during the depression depends in great measure, it is agreed, upon the care with which producers keep crude output in line with demand and the refiners themselves draw upon overheavy inventories instead of making gasoline which even the best market in history cannot absorb.

Crude production reports for the first week in June do not afford complete evidence of the extent to which output will be kept within requirements as estimated by the Bureau of Mines. The accompanying table reveals an increase of 1,315 barrels in the total daily average production over last week. The Bureau's forecast demand for June was 2,838,000 barrels daily. The actual daily production as shown in the table was 2,936,657, or 98,657 barrels above estimated requirements. Reduction in crude stocks was negligible.

On their face these figures do not look encouraging. Judgment will have to be withheld, however, since the full results of any curtailment which producers may be putting into effect are not likely to appear for another week or two. In Oklahoma, for example, the reports show, not a reduction, but an increase. A probable explanation of this lies in the practice of many operators of producing their allowable in the first week or so of the month, instead of spreading it out.

Texas, with only a slight drop in its production, may make a better showing before the month is over. Decline in Kansas production was about three times what the bureau's estimate called for. New Mexico production was virtually unchanged. These four states are in the Interstate Compact. In California, which did not enter the compact, production was up. Louisiana, source of much uneasiness in recent months, lowered its production. Incidentally, the situation presented by that state is regarded as improved with the reported purchase by the United Gas Public Service Company of the pipe line running from the Rodessa field to East Texas.

Production 2,936,657

Increase 1,315

In the normal operation of refineries June runs to stills exceed those of May, July runs exceed those of June, and August runs exceed those of July. In the existing circumstances, with millions of barrels of excess gasoline in stock, it is believed that if refiners hold their runs at their present levels, instead of stepping them up, as in normal years, they could reach the close of peak consumption next fall with storage tanks virtually empty, as they should be.

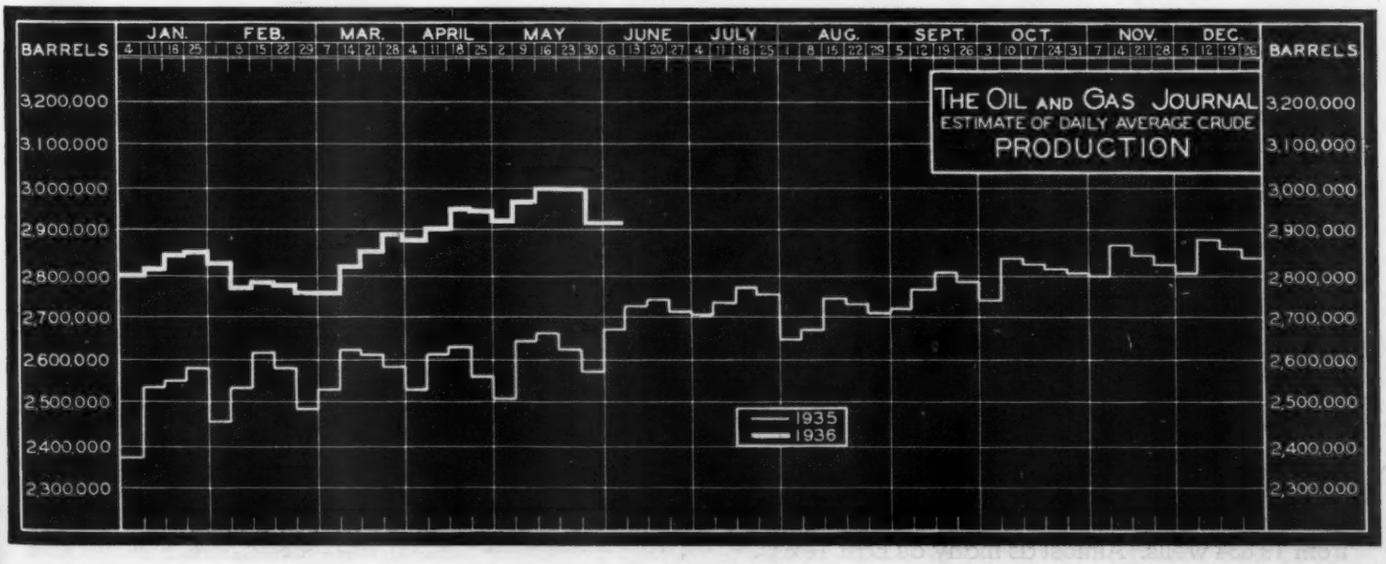
Daily Average Production for Week

	June 6 1936	May 30 1936	June 8 1935
Oklahoma City	134,775	110,575	143,800
Seminole-St. Louis	100,928	104,200	95,950
Remainder of State	311,747	316,825	247,925
Total Oklahoma	547,450	531,600	487,675
East Texas	446,554	443,586	471,781
West Texas	178,041	177,675	153,397
North Central Texas	84,059	84,279	84,834
Texas Panhandle	60,396	62,450	54,827
East Central Texas	53,255	51,850	50,350
Gulf Coast Texas	246,856	251,839	178,543
Southwest Texas	84,393	81,937	59,138
Total State of Texas	1,153,554	1,153,616	1,052,870
North Louisiana	79,020	84,580	22,940
Gulf Coast Louisiana	147,406	148,642	110,947
Total Louisiana	226,426	233,222	133,887
Santa Fe Springs	44,750	43,250	40,750
Long Beach	68,300	65,500	75,500
Kettleman Hills	76,800	76,500	53,250
Remainder of State	390,150	383,250	386,000
Total California	580,000	568,500	555,500
Kansas	135,150	155,275	142,100
Arkansas	29,880	29,830	31,080
Eastern Fields	107,250	107,500	107,000
Michigan	32,157	32,959	41,730
Southeast New Mexico	65,620	64,930	50,970
Rocky Mountain area	59,170	57,910	52,500
Total United States	2,936,657	2,935,342	2,655,312

Crude Oil Stocks in U. S.

(BUREAU OF MINES ESTIMATES)

Week ending May 23, 1936	314,325,000
Week ending May 16, 1923	315,481,000
Week ending May 25, 1935 (Revised)	333,179,000



SPARKS FROM THE NEWS

Workover

First geophysical discovery of promising oil field in California upsets prognostications of pessimists. And in old Kern County, too.

Glass House

Texas production is not so near the Bureau of Mines recommendation that it can criticize Louisiana much.

Correction

There were no promises of better prices if crude production was curtailed—only expectations that still await effective curtailment.

Exchange

German owed us for oil; we owed German for mouthorgans; so American exporter sent check for harmonicas to Jersey Co. export department. Everybody happy but neighbors of harmonica players.

Confidence

Continuing discovery of new pools supports belief that possible oil reserves are far from exhausted.

Inquiry

Bureau of Mines plans to sample oil in storage beginning July 1. What is it expected to prove?

Installment

Suggested Louisiana needs a new conservation law. Is that all?

Testimony

Residents who oppose drilling in Turtle Bay, Texas, are referred to property owners at Oklahoma City.

Relativity

Kansas boasts a potential of a million barrels from 19,634 wells. Almost as many as East Texas.

Deep South

A 5,000-foot test is proposed in Wilkinson County, Mississippi, and Cranfill & Germany and Sun Oil are preparing for location in Lamar County, both counties near Louisiana line.

Sentinel

Governor Walford of North Dakota says emphatically he will not approve increasing state gasoline tax to 3 cents. The right stand at the right time.

Vigilance

New Mexico conservation department stays right on the job with a firm grip on the production valve.

Logs

Shell is reported to have contract with Long-Bell Lumber Co. to explore 79,000 acres of timber land for oil in southwestern Louisiana.

DRILLERS PARK BOILERS IN GARAGE

When Kilgore, Tex., automobile agent moved out and cut his building in two for well location

(Courtesy Kilgore News)

Largest Oil Well in Oklahoma Follows Deepening of Gasser

By L. G. E. BIGNELL

What is reported as the largest well so far found in Oklahoma this year was completed by Sinclair Prairie Oil Co. and others, when their No. 1 Franklin in SE NW SE section 21-10-2w in the Moore field in Cleveland County, was tested last Friday. This well originally completed as a gasser was deepened after the discovery of oil in the second Wilcox sand in another well drilled by the same company on the Community Block. The well first to find oil in this field is known as No. 1 Marvel and since it had the oil showing, a third well, No. 1 Rice, has also been drilled into oil.

On June 7, 1935, Sinclair Prairie Oil Co., acting as operators for 11 companies interested in a Community Block of 1,360 acres in the northern part of Cleveland County just south of the Oklahoma City field, drilled in No. 1 Franklin as a gas well rated by the Corporation Commission as good for 200,000,000 feet of gas and opening this area, known as Moore field.

A second well was located upon the Lizzie Husmann tract in the SW SE SE section 21-10-2w as a southwest and down dip test and failed to find gas or oil but struck water at a total depth of 8,025 feet.

Second Wilcox Sand Produces

On April 12 of this year the same interests completed No. 1 Marvel in NW SW NE section 21-10-2w, a north offset of No. 1 Franklin finding oil in the second Wilcox sand at a depth of 7,240-7,267 feet being the oil discovery well of this field. This well made 1,000 bbls. of oil in a six hour test flowing through drill pipe and has been shut down to permit the running of a string of 7-inch casing.

Another well was also completed by Sinclair Prairie Oil Co. and others, known as No. 1 Rice in NE corner section 28-10-2w and a southeast offset to No. 1 Franklin also finding the second Wilcox sand at a depth of 7,280-7,314 feet and showing oil. This well has also been killed to permit the running of a string of 7-inch casing.

Having found oil in the second Wilcox in No. 1 Marvel it was decided to deepen No. 1 Franklin from 7,291 to 7,318 feet and upon completion of this work this well made 1,571 bbls. of oil the first hour, 1,414 the second and 1,257 bbls. the third hour and was then shut in for lack of additional tankage. The well also made an average of 90,000,000 feet of gas per day during this test. The gas and oil was produced through a string of 7-inch casing with casing head pressure of 330 pounds and back pressure on oil and gas separator of 80 pounds per square inch. This is reported as the largest oil well completed in Oklahoma this year.

Other Tests Drilling

In addition to these three completions the Community Block interests are drilling, with Sinclair Prairie Oil Co. as operators, two other wells. No. 1 Ira D. Peaches, NE SE NW section 21-10-2w, the direct west offset of No. 1 Marvel is reported drilling at 4,850 feet. No. 1 Arnold Husmann, NE NE SW section 21-10-2w, west and a little north of No. 1 Franklin is drilling at 6,246 feet.

Three locations have been made by companies owning land outside of the Community Block and the east offset to No. 1 Rice within the block is also drilling.

In addition to marking the western limits of the pool by No. 1 Lizzie Husmann another test was drilled to a total depth of 7,511 feet on the M. G. Fant lease by Mayes and others, and failed to find gas or oil and is reported as passing through the fault which marks the eastern side of the field.

This new oil pool is located about 5 miles south of Oklahoma City field. Between the south end of the Oklahoma City structure and the Moore structure there is a deep syncline and tests south of Oklahoma City have indicated this intervening region as non-productive. They have also shown that the Moore structure is separate from the Oklahoma City field although it does lie to the west of the major fault which passes to the east of Oklahoma City field.

It has been reported that No. 1 Franklin, originally completed as a gas well, drilled itself in but this is not the case. The upper Wilcox sand is either missing or very thin over this anticline and oil was not found in this well until the hole was deepened following the discovery of oil in No. 1 Marvel, the north offset, and the oil discovery well of this field. The oil is of 40 gravity A.P.I. scale and is being run by Sinclair Prairie Pipe Line Co.

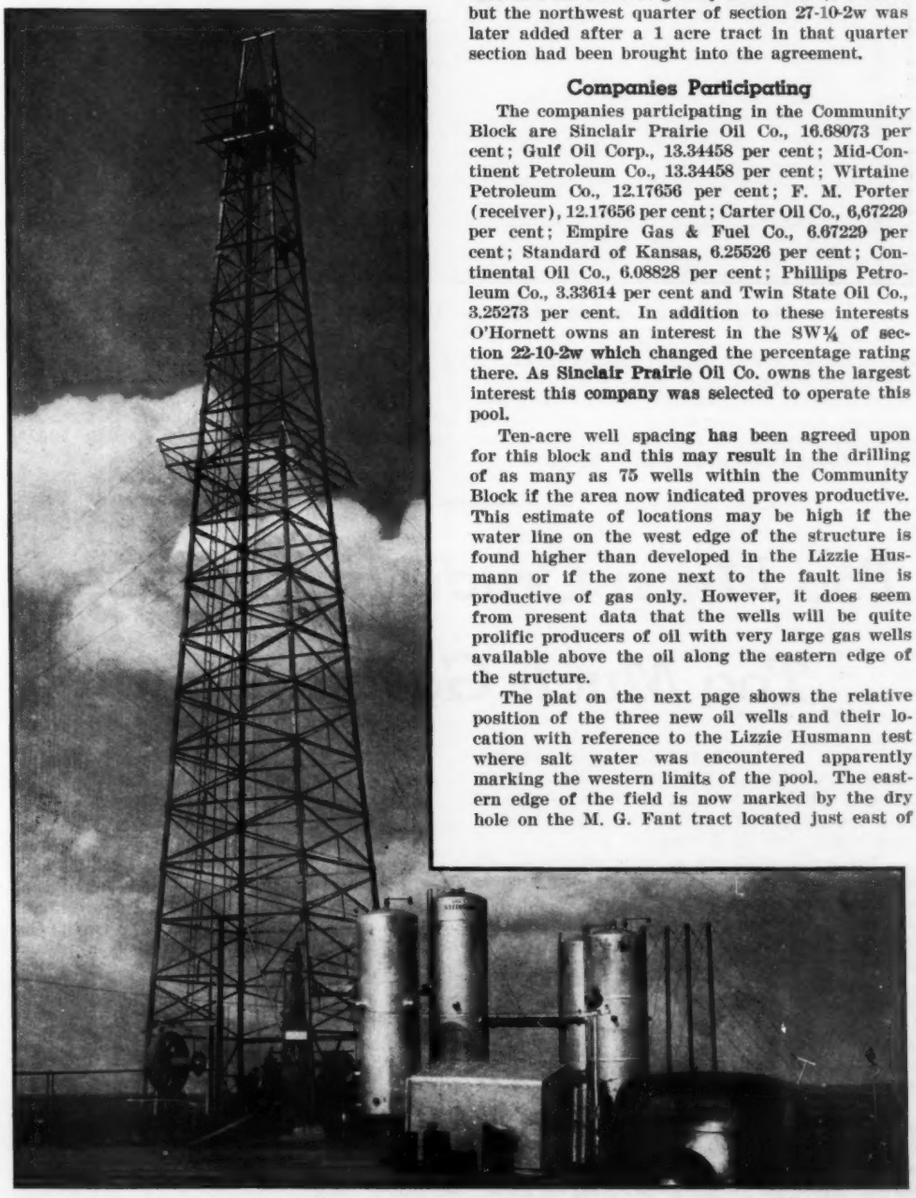
The interests owning acreage in this area formed the Community Block late in the fall of 1934 and the block originally contained 1,200 acres but the northwest quarter of section 27-10-2w was later added after a 1 acre tract in that quarter section had been brought into the agreement.

Companies Participating

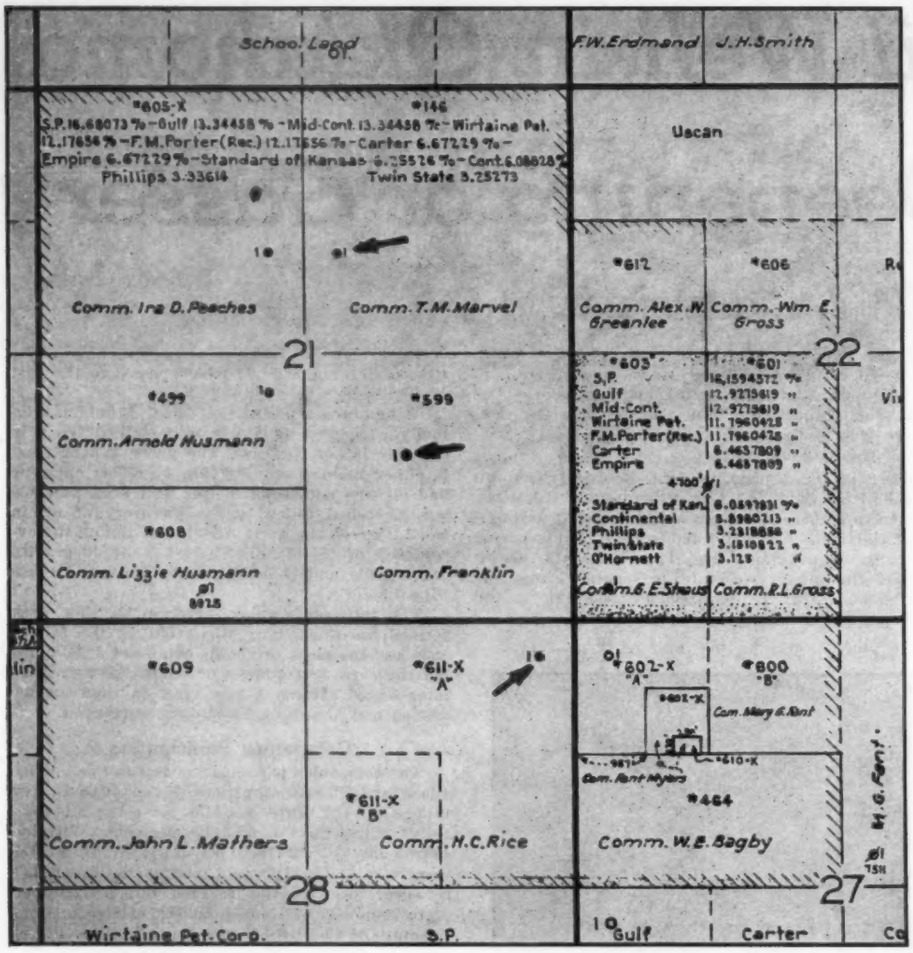
The companies participating in the Community Block are Sinclair Prairie Oil Co., 16.68073 per cent; Gulf Oil Corp., 13.34458 per cent; Mid-Continent Petroleum Co., 13.34458 per cent; Wirtaine Petroleum Co., 12.17656 per cent; F. M. Porter (receiver), 12.17656 per cent; Carter Oil Co., 6.67229 per cent; Empire Gas & Fuel Co., 6.67229 per cent; Standard of Kansas, 6.25526 per cent; Continental Oil Co., 6.08828 per cent; Phillips Petroleum Co., 3.33614 per cent and Twin State Oil Co., 3.25273 per cent. In addition to these interests O'Hornett owns an interest in the SW¼ of section 22-10-2w which changed the percentage rating there. As Sinclair Prairie Oil Co. owns the largest interest this company was selected to operate this pool.

Ten-acre well spacing has been agreed upon for this block and this may result in the drilling of as many as 75 wells within the Community Block if the area now indicated proves productive. This estimate of locations may be high if the water line on the west edge of the structure is found higher than developed in the Lizzie Husmann or if the zone next to the fault line is productive of gas only. However, it does seem from present data that the wells will be quite prolific producers of oil with very large gas wells available above the oil along the eastern edge of the structure.

The plat on the next page shows the relative position of the three new oil wells and their location with reference to the Lizzie Husmann test where salt water was encountered apparently marking the western limits of the pool. The eastern edge of the field is now marked by the dry hole on the M. G. Fant tract located just east of



Sinclair Prairie Oil Co. and others No. 1 Franklin Community well in Moore County, Okla.



Plat of Moore Community Block, Cleveland County, Oklahoma

the southeast corner of the boundaries of the Community Block.

On June 10 the Oklahoma Land Commission will open for lease six 40-acre tracts located immediately north of the Community Block in section 16-10-2w. One well is located on this School Land to the north as well as a well being drilled by Gulf Oil Corp. immediately south of the Community Block in NW NW NW section 27-19-2w on the S. S. James lease. If these north and south tests prove productive it will materially add to the size of this field.

tion of oil products in Italy was cited by Mr. Teagle as an illustration that war does not increase business. He said the New Jersey company had taken years to build up its business in Italy and its trade in that country was at a low ebb now, although the company was being paid for what products it sent there. While a war might stimulate business temporarily, he said, the after-effects usually bring about a severe recession, which far outweighs any temporary increase in business done as the result of a war.

In describing the methods used in settling balances due the company in international trade transactions, Mr. Teagle explained that instead of the transfer of actual funds from one country to another, the Jersey organization used its credits arising from the sale of oil, for instance in Germany, to offset credits of German companies which had sold products in the United States.

Mr. Teagle had occasion to refer to transactions involving an exchange of credits by the Jersey company with a German manufacturer of musical instruments. It appears that his words were taken literally to mean that through these transactions, the oil company had come into the possession of a large number of harmonicas. The result was that on the day following the annual meeting, the company's offices in Rockefeller Center were deluged with offers to purchase the instruments and suggestions as to their disposal, including one that the company give a harmonica free with each purchase at a company gasoline station.

Mr. Teagle, in explaining the problem in exchange, had said that the company had used its credit accumulated in Germany through the sale of oil to discharge the indebtedness of an American importer of toys and musical instruments from Germany. The importer, in return, had handed over a check to the Standard Oil Co. in exchange for its payment of his debt in Germany. Mr. Teagle's organization in no sense had owned any harmonicas or accepted any in payment for its oil. The importer simply had owed the German manufacturer marks; the Jersey company had a credit in marks and had paid his bill there, while he paid the Jersey company here.

In closing the questioning Mr. Teagle revealed that the net earnings of Standard of New Jersey in the first four months of this year approximated those of the corresponding period of 1935. The company's volume of business increased somewhat this year, he said, adding that, although as a result of that gain, earnings might be slightly greater, "you never can tell in the oil business what is going to happen tomorrow; somebody may pull a string that will change the whole outlook."

Too Much Crude Is Produced, Too Much Gasoline Stored

—W. C. TEAGLE

NEW YORK, June 8.—Walter C. Teagle, president of the Standard Oil Co. (New Jersey), sounded a warning on overproduction to the petroleum industry, at the annual meeting of his company, held in Newark, N. J.

"Too much crude oil is being produced," he said emphatically, "and there is too much gasoline in storage. The refining branch of the industry in 1935 did better than in 1934 and it might do as well this year if it did not try to process too much crude oil.

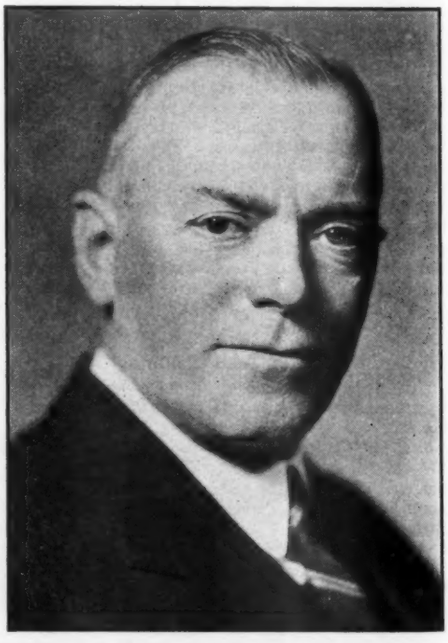
"With stocks of gasoline up about 10,000,000 bbls. since the beginning of the year, the industry is overdoing itself at present. Some curtailment in crude oil runs to stills is essential to bring the statistical position of the industry to where it should be."

Mr. Teagle expressed the opinion that the situation with respect to the Rodessa field is showing some improvement, but at the same time called attention to the important position now held by the state of Louisiana in the crude oil production picture. "Once or twice in the last month the Rodessa field threatened to get out of control," he said. "Fortunately, however, there has been, with the exception of one or two operators there, a very sincere desire to cooperate, and I feel that unless there is some unexpected development, and if the operators there continue as they have in the last 10 days or two weeks, that situation will not be as serious a menace as it might have been.

"The state of Louisiana needs an oil conservation statute. Political authorities there have indicated that such a statute may be passed at the next session of the legislature. A statute similar to the one now in effect in New Mexico, which is a good law, is under consideration."

Reports current with respect to oil companies supplying nations at war were mentioned. Mr. Teagle declared emphatically the Standard Oil Co. of New Jersey never had accepted any war business from Italy.

The decline in recent months in the consump-



WALTER C. TEAGLE
(Wide World)

Taxation Chief Topic at Meeting of Eastern District, A.P. Institute

By R. C. CONINE

PITTSBURGH, Pa., June 8.—Nearly 500 eastern producers attended the ninth annual meeting of the Eastern district production division of the American Petroleum Institute, here. So keen was the interest manifested on the opening day on such subjects as confiscatory taxation and discriminatory regimentation that all subsequent discussions were flavored with the strong sentiment in the eastern oil districts against further additions to an overwhelming tax load.

J. C. ASKAM
New Chairman

T. W. Phillips, Jr., president, T. W. Phillips Gas & Oil Co., Butler, Pa., found confirmation in the response of his audience when he said "we are bequeathing to our children a bureaucratic monstrosity, a tyrannical government of taxeaters, by taxeaters and for taxeaters." The nation, he said, is being taxed into state socialism, just a step from dictatorship. "Taxes," Mr. Phillips said, "are now the biggest bill paid by the American people, but not big enough for the taxeaters. Notwithstanding the fact we pay in taxes more than we pay for food, more than we pay for rent, twice as much as we pay for clothing, and six times as much as we pay for light and power, our future is being mortgaged by the daily accumulating public debt."

The labeling of certain income as "unearned," the speaker said, would end in the confiscation of investments in stocks, bonds and savings and would dump our whole social, industrial and political system into the junk heap. "It is the false premise of such income as 'unearned'" Mr. Phillips said, "that communistic leaders would use to justify the divesting of every individual of the means of receiving any income whatever from any form of investments, bank savings or life insurance."

Frank M. Brewster, president and general manager, Belmont Quadrangle Development Co., Bradford, Pa., described a new method of drilling in the deep high pressure gas wells of the Pennsylvania and New York Oriskany sand belt. To eliminate the dangers of completing the large gassers common in that era with cable tools, Mr. Brewster's company turned to rotary drilling and the safeguards permissible with that method. Mr. Brewster said the drilling cost of the company's deep wells had been lowered by as much as $6,000, and fear of dangerous blowouts had been almost entirely eliminated.

Difficulty in Drilling

In his discussion of Mr. Brewster's paper, J. G. Montgomery, general manager of production, United Natural Gas Co., Oil City, noted the difficulties of drilling to the Oriskany sand. As many as 16 gas pockets, each acting as a nitroglycerine blast on the tools, Mr. Montgomery said, have been encountered above the Oriskany.

Dr. K. C. Heald, chief geologist, Gulf Oil Corp., discussed deep well drilling problems and their solutions. He said that in the east there is some promise of production in the Oriskany, Clinton, Trenton and St. Peters formations.

Dr. C. R. Fettke, professor in geology at Carnegie Institute of Technology, Pittsburgh, dealt with the prospects for eastern production in the deeper sands in his discussion of Doctor Heald's paper. The best prospects, he said, for oil and gas production in the Pennsylvania grade crude oil region are in the Oriskany, Clinton and Trenton rocks. He warned, however, that these formations have indicated insufficient porosity outside of the districts where they are now producing oil or gas. H. R. Pierce Oil & Gas Recovery Co., Sistersville, W. Va., and C. B. Hunter, geologist, Kentucky and West Virginia Gas Co., stressed the importance of core testing each well in a new area thoroughly.

Axtell J. Byles, president of the American Petroleum Institute, described the workings of the interstate compact, and said the importance of the interstate compact to eastern producers is paramount. The eastern producer cannot hope to market his high cost products in competition with a distress on western market. In those new areas where crude has sold for as little as five cents a barrel refined products may in periods of cutthroat competition sell at the service station for little more than the tax. Experience has shown this to be true.

A strongly optimistic note for the eastern oil and gas producers was struck by P. H. Curry, president, South Penn Oil Co., Mr. Curry was particularly appreciative of the work of the Pennsylvania Grade Crude Oil Association in widening and retaining the markets for grade oil products. The association's research and development work at Pennsylvania State college, he said, has assisted greatly in lowering production costs and will continue to do so.

Production problems and geology of Kentucky, Ohio and Michigan occupied most of the closing day sessions. An interesting presentation was that of Thomas R. Weymouth, Columbia Gas & Electric Corp., on gas measurements.

T. W. PHILLIPS, JR.

Newell M. Wilder of Kentucky said: "Limestone reservoirs, like sand, which have been on vacuum are in worse shape to repressure than those that have not been on vacuum. Most operators starting repressuring operations could not afford to cease vacuum operation suddenly as this would result in momentary loss of all production, but it is advisable such practice be discontinued as rapidly as possible. Vacuum on repressuring operations would tend to bring on channelling troubles, especially in limestone. Under such conditions it seems low pressures and small volumes of intake fluid should be used to start with."

Another important part in representing limestones is the cleaning of all producing wells. Water borne mineral depositions may require a light shot or acid treatment. Mr. Wilder said in some fields air and gas repressuring had increased production as much as 700 per cent.

Election of Officers

District officers were elected as follows: J. C. Askam, chairman, Ohio Oil Co., Findlay, Ohio; F. E. Eckert, vice chairman, Hanley & Bird, Bradford, Pa.; Geo. Wittmer, III, vice chairman, Wittmer Oil & Gas Co., Pittsburgh, Pa.; Fred Benkert, vice chairman, Peoples Natural Gas Co., Pittsburgh, Pa.; G. L. Hassler, vice chairman, Pa. State College, State College, Pa.; J. J. Schmidt, vice chairman, East Ohio Gas Co., Cleveland, Ohio; Christy Payne, Jr., secretary-treasurer, Peoples Natural Gas Co., Pittsburgh, Pa.

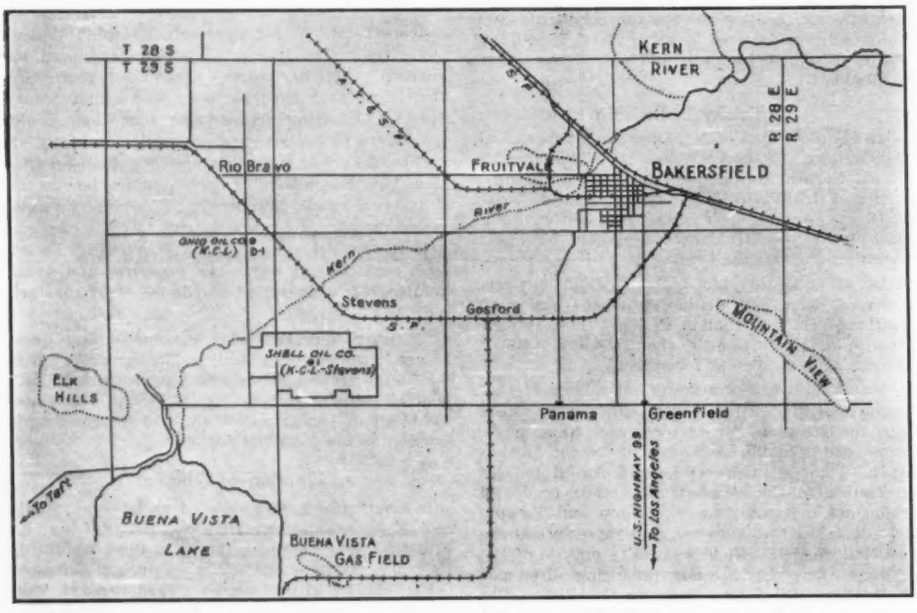
The advisory committee follows:

H. H. Phillips chairman, Phillips Drilling Co., Butler, Pa.; J. C. Askam, Ohio Oil Co., Findlay, Ohio; Frank Brewster, Belmont Quadrangle, Bradford, Pa.; S. J. Brendel, Penn. United Gas, Pittsburgh, Pa.; E. F. Clagett, Pure Oil Co., Saginaw, Mich.; P. H. Curry, South Penn Oil Co., Pittsburgh, Pa.; Forest D. Dorn, Forest Oil Corp., Bradford, Pa.; K. C. Heald, Gulf Oil Corp., Pittsburgh, Pa.; D. S. Keenan, K. W. Va. Gas Co., Ashland, Pa.; S. W. Meals, Carnegie Natural Gas, Pittsburgh, Pa.; J. G. Montgomery, Jr., United Natural Gas, Oil City, Pa.; J. H. Newlon, Philadelphia Co., Pittsburgh, Pa.; John Post, Oil Well Supply Co., Oil City, Pa.; C. C. Reed, Hope Natural Gas Co., Clarksburg, W. Va.; J. R. Reeves, Cities Service Corp., Elmira, N. Y.; J. French Robinson, Peoples Natural Gas, Pittsburgh, Pa.; Frank Schauer, Equitable Gas Co., Pittsburgh, Pa.; E. N. Smith, National Supply Co., Pittsburgh, Pa.; F. N. Speller, National Tube Co., Pittsburgh, Pa.; P. D. Torrey, Sloan & Zook Co., Bradford, Pa.; Don Wilson, Columbia Gas & Elec., New York City; R. T. Zook, Sloan & Zook Co., Bradford, Pa.

Shell Discovery in Kern County Area of Probable Primary Importance

By L. P. STOCKMAN

LOS ANGELES, Calif., June 8.—A new oil field of probable primary importance was discovered in California when Shell Oil Co. No. 1 K.C.L., in the Stevens area of Kern County, came in flowing 650 bbls. of 61.3 gravity oil and 16,540,000 feet of gas per day from 7,888 feet and, as a result Shell has the distinction of discovering the first oil field in California by use of geophysical exploration. Several dry gas fields have been discovered during the past few years as a result of seismological surveys and in one case an oil field located through geological investigation was given a geophysical survey to confirm preliminary deductions, but the Rio Bravo, or Stevens field as it will probably be designated, is the first oil field to be opened in California as a direct result of geophysical exploration. The reflection seismographic method is used almost exclusively in California. Shell was one of the first to adopt this method of operation in California and has been the most aggressive operator along this line.



Showing location of Shell Oil Company Kern County, California, discovery well

The Shell discovery well is located on property leased from the Kern County Land Co. in section 29-30-26 and is almost in the center of a solid block comprising approximately 4,200 acres. This precludes extensive drilling, especially as the acreage for several miles around consists of large blocks. No. 1 K.C.L., bottomed at 7,888 feet and finished with 2½-inch tubing and a 4¾-inch liner carrying 88 feet of 100-mesh screen, is just north of Panama Road about 12 miles west of Greenfield, 6 miles north of the Buena Vista Lake gas field, discovered as a result of geophysical exploration by Ohio Oil Co. in July, 1934, and approximately 12 miles southwest of Bakersfield. The new well is flowing through a 34/64-inch bean and shows a pressure of 1,810 pounds on the tubing and 2,100 pounds on the casing. It has built up from the initial production of 650 bbls. per day to 795 bbls. daily, which indicates it can easily make 1,000 bbls. per day if opened up. The well came in with only two runs of the swab and almost got away before final preparations were completed as it started gassing and expelled considerable mud before being brought under control. The exact age of the productive formation has not been definitely determined but is believed to be of Miocene age as a change in formation at 7,300 feet was conditionally identified as Miocene. Top of the pay was logged at 7,810 feet and the well has only 40 feet of 20-inch surface pipe in addition to a 7-inch water string landed and cemented at 7,800 feet.

The new Stevens field is out in the floor of the San Joaquin Basin in an area practically devoid of any topographic indication of structure. The surface drainage area is west and south, represented by the Kern River, Buttonwillow Slough and Buena Vista Lake. Elk Hills, about 8 miles west, is the nearest area that shows any pronounced elevation. The floor of the basin in this area consists of gentle and almost imperceptible swells, a deposition apparently having been built up by the action of winds rather than the remains of an area cut away by erosion. It is impossible at present to really appreciate the possible significance of the discovery, both with respect to deeper zone possibilities and because the Shell may have discovered a new fold along which may ultimately be found several additional prolific fields. Most of California's productive oil fields are located en echelon along well defined sheer zones and consequently the Shell discovery may eventually prove of far more importance than is now apparent. A number of operators have started an aggressive leasing campaign in the vicinity of Gosford, about 6 miles east, and also at regular intervals along a projected line of folding between Stevens and Buttonwillow and the South Belridge field. Discovery of a second productive field would indicate the trend rather definitely and if this is located we may find another group of fields.

The remarkably high gravity oil found has aroused considerable interest because of its similarity to the oil produced from the upper or Elliott high pressure zone in Kettleman North Dome, about 80 miles northwest. The 61.3 gravity oil produced in No. 1 K.C.L. is the highest gravity found in commercial quantities in California up to the present. The oil is straw color but appears to have a definite base in contrast with a condensate which for the most part contains only the very lightest fractions. The extremely high grade oil is bound to result in considerable exploration work although operators having organized geological departments will concentrate activities along the line of probable folding. Shell does not have pipe line facilities south of Coalinga and may utilize facilities of Union Oil Co. pending completion of its new line northward from Bakersfield in Kern County to Martinez on San Francisco Bay, approximately 350 miles. Actual construction work on Shell's new line is expected to get under way within 30 days, although remodeling of existing pump stations will be started in a fortnight. Only a limited amount of tankage is available and the well will be shut in unless transportation arrangements are concluded.

Developments in Rodessa Are Tending to Stabilization

SHREVEPORT, La., June 8.—Purchase of the East Texas Refining Co. 56-mile 8-inch line from Rodessa to East Texas by United Gas Public Service Co. is still under negotiation. The line was used to move oil from Pelican Oil & Gasoline Co. Sexton lease in Rodessa on which a special permit to produce up to 20,000 bbls. daily was granted.

The recent cooperative action of Louisiana and Texas in reducing the per well allowable in Rodessa from 350 to 275 bbls., and the influence of Judge Bryant's decision restraining interstate movement has done much to restore confidence.

Dr. J. A. Shaw, director of the minerals division, department of conservation, stated June 4 in Shreveport that the "special order" issued to the Pelican company was still in effect. This permit is not now being exercised.

A well on the Cass County, Texas, side is believed to have the highest gas-oil ratio ever measured at Rodessa. When the railroad commission tested American Liberty Oil Co. No. 1 Marcus Rambo it produced 43 bbls. per day, with a ratio of 16,310 feet of gas per barrel. This well is close to the fault and has only 3 feet of saturated sand below the gas cap.

Increase in Crude Oil Price Is Urged by Landreth

FORT WORTH, Tex., June 8.—E. A. Landreth, Fort Worth, Tex., producer, has sent telegrams to all purchasers of Texas crude and heads of major companies suggesting that "In view of the favorable position of the industry and the growing discontent at the delay in price increase, I urge that you post a 25-cent increase in crude prices immediately to retain confidence of your friends and other independent producers, as well as that of the oil regulatory officials who have expected that their past sacrifices and careful planning would result in increased crude prices to the end that the increased earnings now enjoyed by the integrated companies may be equitably extended to those engaged strictly in the business of oil."

Regular Aviation Gasoline Gives Way to 100 Octane Motor Fuel Blends

WHITE SULPHUR SPRINGS, W. Va. — Iso-octane iso-propyl ether and toluene blends may replace gasoline as the motor fuel of the future if the automotive industry follows the trend of aviation as revealed in papers delivered before the Society of Automotive Engineers, meeting here this week.

Up to the present these materials have been manufactured in relatively small quantities and most of the toluene has come from by-product coke plants. Now, however, these materials can be made in large quantities and comparatively cheap. The oil industry is prepared to manufacture iso-octane in large quantities and can make toluene in large quantities through polymerization should it be decided later that such blends are better than iso-octane alone.

Iso-Propyl Ether Blends

A most interesting development in aviation fuels was that reported by Maj. E. E. Aldrin, head of the aviation division of the Standard Oil Co. (New Jersey) as the result of work done by H. E. Buc of that company. He chose as the subject of the paper prepared jointly with Mr. Buc "A New High Octane Blending Agent" and therein discussed the field tests on iso-propyl ether blends. He said in part:

"Petroleum chemists have for many years been seeking new materials suitable as high anti-knock fuels by themselves or as blending agents in the preparation of base stocks to which some anti-knock compound such as tetraethyl lead could be added in small quantities to give the desired high anti-knock value. Technical iso-octane is one such material already made commercially available. The petroleum industry has now succeeded in providing a new material to supplement technical iso-octane. This material is iso-propyl ether. Contrary to the behavior of ethyl ether which is a violent knock inducer, iso-propyl ether along with some other ethers has been found to be an exceptionally good anti-knock fuel. During the past eight years experimentation has progressed on this material and methods of manufacture studied until at this time it appears to be an important factor in the successful solution of the high anti-knock fuel problem. Full scale multi-cylinder engine tests, mentioned later, have demonstrated its remarkable anti-knock qualities and in physical characteristics it apparently meets the requirements of present day military and commercial aviation fuel specifications when blended with aviation gasoline in proportions to give 100 octane was 3 cc. of lead tetraethyl."

"The physical characteristics of iso-propyl ether are shown in Table 1, along with corresponding values for pure iso-octane and benzene, shown for comparison. Although a low boiling material, its vapor pressure is below the maximum allowed for aviation gasolines and when blended therewith, vapor pressures will be entirely suitable. Blends of iso-propyl ether in aviation gasoline have low gum content by all the usual methods of test. With the addition of 1 to 2 milligrams of gasoline inhibitor per 100 ml., these blends also have satisfactory resistance to oxidation. The induction period determined at 212° F. under oxygen pressure of 100 pounds per square inch exceeds seven hours. The best motor gasolines rarely have an induction period exceeding six hours.

"A considerable amount of data is available in regard to the octane number and lead susceptibility of blends of iso-propyl ether by various methods. A study of these results justify the following conclusions in regard to performance on single cylinder test engines:

(a) Blended in commercial aviation gasolines, a fuel of 100 army octane is possible with 40 per cent of iso-propyl ether without exceeding 3 cc. of lead tetraethyl.

(b) The blending value of iso-propyl ether is slightly superior to the blending value of technical iso-octane in unleaded blends and also superior for any fixed amount of lead tetraethyl in the corresponding blends.

(c) When blended with 74-75 octane gasoline, and without exceeding 3 cc. of lead per gallon, an octane number of approximately 101-102 is the maximum possible when using technical iso-octane as a blending agent, whereas iso-propyl ether will give at least 105 in concentrations of about 65 per cent or over.

(d) The amount of lead tetraethyl necessary to meet a given octane number is less for iso-propyl ether than for technical iso-octane in blends containing the same percentage concentrations.

"Of particular interest when proposing a new and different fuel is the question of potential supplies of raw materials as related to potential demand. The total United States consumption for all grades of aviation fuels was 63,000,000 gallons for 1934 and is estimated as 88,500,000 gallons for 1936.

"A recent survey of potential supplies of propylene, the raw material for making iso-propyl ether, has shown that in this country, sufficient is available exclusive of all other normal demands for other purposes, to produce at the present time approximately 340,000,000 gallons per year of technical iso-propyl ether. Assuming that 100 octane fuel is required (using 3 cc. lead/gallon), this is sufficient to produce some 850,000,000 gallons per year of finished product. Thus it is apparent that the availability of this fuel is much more than sufficient to meet the entire requirements for 100 octane gasoline even in the event of national emergency. When combined with the available supplies of technical iso-octane, estimated at 155,000,000 gallons per year, there is every assurance that adequate quantities will be immediately available for any demand. The cost of the material for large production is reasonable.

When iso-propyl ether and iso-octane are available, blends of the two offer certain advantages lacking in either when used separately, particularly with respect to volatility. Data have been presented which show that a 50-50 blend of the two in Standard knock reference fuel C-9 has an anti-knock value superior to that obtained when using iso-octane alone as the blending agent. By using such blends a fairly wide range of volatilities is made available.

"Tests have been run on high output multi-cylinder engines comparing the performance of the following fuels:

Straightrun gasoline + iso-octane + lead to 100 O.N.

Straightrun gasoline + iso-propyl ether + lead to 100 O.N.

Straightrun gasoline + lead to 92 O.N.

Conclusions drawn so far indicate:

1. The 100 O.N. iso-propyl ether blend has a minimum specific fuel consumption 13 per cent lower than the 92 O.N. regular gasoline when run under cruising conditions.

2. The 100 O.N. iso-propyl ether blend has a minimum specific fuel consumption 5 to 7 per cent higher than the 100 O.N. iso-octane blend under cruising conditions. This is in proportion to its lower heat content.

3. The lower economy of iso-propyl ether may be overcome by going above 100 O.N. which is possible with this material.

4. The 100 O.N. blends of iso-propyl ether and iso-octane are equal in power output and consumption under high power conditions such as used during take-off.

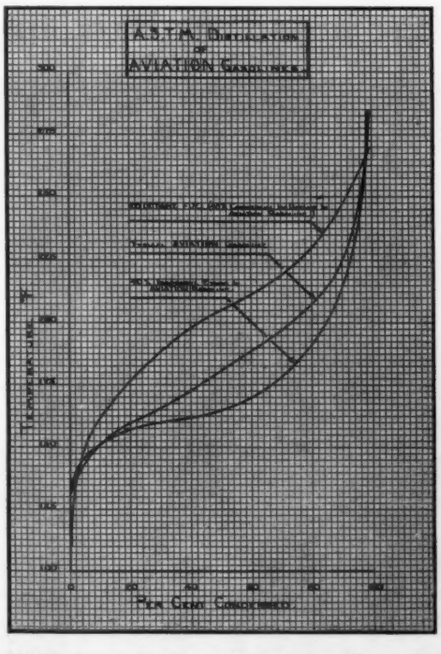
	Iso-propyl ether	Pure iso-octane	Benzene
Boiling point, °F. at 760 m.m. of Hg. pressure	154	211	175
Density at 68°F. (20°C./4°C.)	0.725	0.691	0.878
Refractive index at 68°F.	1.3680	1.3921	1.5014
Freezing point, °F.	−125	−162	42
Viscosity, centipoise at 68°F.	0.322	0.542*	0.647
Latent heat of vap., B.t.u./lb.	123	130	170
High value of heat of combustion, B.t.u./lb.	16,900	20,580	17,650
Low value of heat of combustion, B.t.u./lb.	15,600	19,200	17,000
Low value of heat of combustion plus latent heat of vaporization, B.t.u./gallon	95,100	111,400	125,700
Reid v.p., lbs./sq. in. 100°F.†	5.3	2.2	3.2

*65°F. †Reid vapor pressure determined on commercial products rather than C. P. compounds. In case of benzene, vapor pressure value is for commercial 90 per cent benzol.

Probably the most complete discussion offered before the group interested in army motor fuels

NEW AVIATION FUEL ANNOUNCED

NEW YORK, June 8.—W. S. Farish, chairman of the board of Standard Oil Co. (New Jersey) and F. A. Howard, president of the Standard Oil Development Co. announced today details in connection with the discovery and use of a new aviation motor fuel blending material. The product is iso-propyl ether and was discovered by H. E. Buc and test results when using the new material were reported by Major Aldrin, head of the company's aviation department before the Society of Automotive Engineers. His comments appear in part on this page.

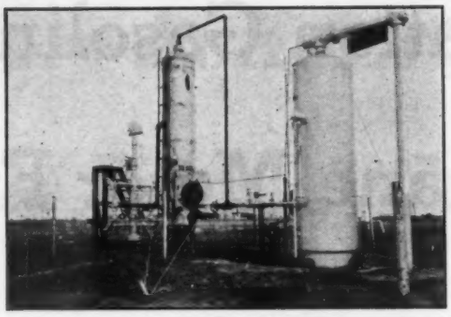


Distillation curves on aviation gasolines. Upper contains 45% iso-octane; middle is typical present day, while lower is blend of 40% isopropyl ether

was that of Frank D. Klein of the Army Air Corps, in which he said in part: "Full scale engine tests showed that an increase of 15 to 30 per cent in power output is possible with Army 100 octane fuel compared with Army 92 octane fuel. Specific fuel consumption has run as low as .34 pound per brake horsepower hour in the cruising range without excess engine temperature by the use of 100 octane fuel."

It should be pointed out, however, that the Army method of determining motor fuel octane ratings differs somewhat from that used by the oil industry and roughly, a fuel having an octane rating of 92 by the Army method will rate but 87 on the A.S.T.M. method. A similar relationship exists between the results when testing fuels in the immediate range, but for fuels above 100 octane rating the two methods yield results of greater difference. To quote Lieutenant Klein further it was of considerable interest to those present to hear the results of full scale economy tests in which 92 octane Army fuel and various types of 100 octane fuels were compared with particular stress played upon economy. He said: "These tests were scheduled in an R-1,820 Wright Cyclone engine with a standard 6.45 to 1 compression ratio to cover a range of operations from cruising to full power when taking off." One fuel used was a toluene blend. The latter showed up well compared with straight iso-octane but it will be necessary to await additional tests before final conclusions may be drawn. Based upon the findings to date the lieutenant said: "The use of fuels of high aromatic content, containing no iso-octane such as the toluene blends reported herein, might be of decided value in the future, particularly since new methods for the economical production of aromatics are now available which make it appear that considerably more can be procured than were available in the past 15 years. In addition, other processes are being developed for the production of high antiknock fuel which will not only increase the available supply and reduce the cost of 100 octane fuel, but which will make available, large quantities of much better fuels.

In summarizing the needs of the air corp and as a suggestion as to the quantity of such fuels that commercial lines might demand in the future the following was presented in part: "The air corps has purchased approximately 1,850,000 gallons of 100 octane fuel for use during the fiscal year beginning July 1, 1935. This fuel is in general service use at Hamilton and March Fields,



Individual well hook-up on Shell Petroleum Corporation well at Iowa, Louisiana

♦ ♦ ♦

California; Selfridge Field, Michigan, and Barksdale Field, Louisiana. A small portion is being used for experimental purposes at Wright Field, Ohio. This fuel all conforms with Specification No. 2-92, which provides for no changes whatsoever in properties over regular army 92 octane fuel except for the higher antiknock value, and reduction in maximum allowable tetraethyl lead content from 6 to 3 ml. per gallon to reduce engine corrosion difficulties. In addition, Specification No. 2-90 has been issued covering unleaded army 92 octane fuel, intended for the routine block-testing of engines at depots as a means of reducing engine corrosion during storage. For the fiscal year beginning July 1, 1936, the air corps contemplates the procurement of 2,841,000 gallons of 100 octane fuel, and 700,000 gallons of unleaded army 92 octane fuel.

"The Bureau of Aeronautics, Navy Department, on February 1, 1936, issued Specification M-302, covering high octane aviation gasoline which with not more than one-half ml. of tetraethyl lead per gallon is required to have an antiknock value of 87 octane by the A.S.T.M. method. With additional lead added to bring the total content to not over 3 ml. per gallon, the fuel is required to be not poorer than 100 octane by the air corps method of knock test and to conform with all requirements of Army Specification 2-92 covering 100 octane fuel. The purpose of this navy specification is to provide fuel conforming with past Bureau of Aeronautics requirements for 87 octane fuel, but which contains a very small concentration of tetraethyl lead in order to reduce engine corrosion; and which, due to consisting of the same base as is used in the 100 octane fuel being furnished to the air corps, will assist the fuel industry in the development of facilities for producing high antiknock fuels and thus make it easily possible to procure 100 octane fuel when desired for the improvement of engine performance."

Of equal immediate importance was the summary of ideas presented regarding the quality of fuel needed to best operate diesel engines. Some of the discussion of diesel fuels included the suggestion that serious thought regarding their specifications must be given to their use as fuels for aviation engines as well as for engines driving the conventional automobiles and in motors designed to handle the heavier and more severe work of stationary installations. One of the most interesting studies presented before the assembly was that made by A. M. Rothrock of the National Advisory Committee for Aeronautics in which he said in part:

"Recent tests conducted at the Langley Memorial Aeronautical Laboratory have shown that considerable improvement in the performance of the compression-ignition engine can be obtained by the use of a displacer piston. To observe the effects of the displacer piston on the air flow and the effects of the air flow on the fuel spray and flame formation, high-speed motion pictures have been taken at the rate of 2,200 exposures a second of these phenomena in the combustion chamber of the N.A.C.A. combustion apparatus. This apparatus consists of a single-cylinder test engine which is operated under its own power for a single cycle. A vertical disc combustion chamber was employed, the sides of which were formed by two 2½-inch glass windows. A single 0.020-inch fuel-injection nozzle was used so that the effects of the air flow on the spray distribution could be easily visualized. By using "Schlieren" photography the air flow, fuel injection, and flame formation were recorded simultaneously. When the motion pictures are projected the phenomena can be observed at 1/150 of their actual speed.

"The results show that although the core of the fuel spray was not destroyed by the air movement, the direction of the spray was changed and the spray envelope was carried away by the moving air. The volume of the chamber reached by the combustion was considerably increased when the displacer piston was used. It was found that the air movement set up during the induction of air into the engine cylinder could be controlled so as to materially aid the air flow set up during the last of the compression stroke."

Eastern Operators Prominent at Pittsburgh A. P. I. Meeting

J. H. NEWLON

F. M. BREWSTER

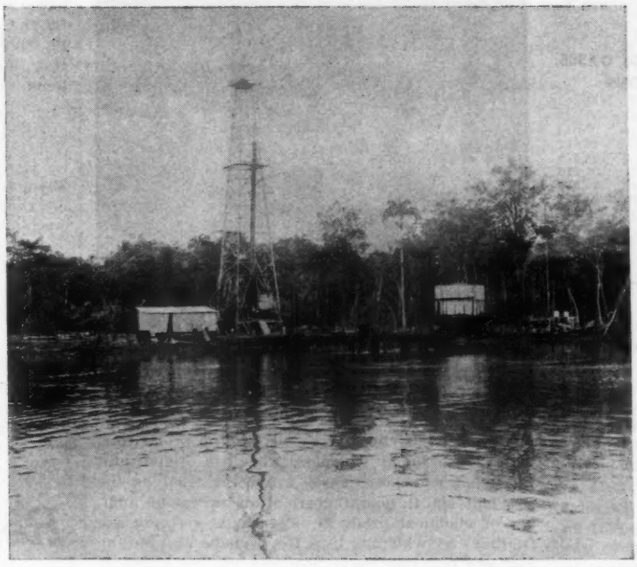
FRANK E. ECKERT

Venezuela Problems Involve Pumping, Dehydration and Repressuring Units

Operations in the Lagunillas field in Venezuela are presenting an increasing number of mechanical problems, many requiring employment of a substantial amount of new reconditioning and pumping equipment, as well as dehydration and repressuring units. The gradual subsidence of a large portion of the field is continuing, calling for construction of concrete dikes along the shore of Lake Maracaibo to prevent the water from encroaching on the land.

The land concession in Lagunillas is held by Venezuela Oil Concessions, Ltd., Royal Dutch subsidiary. Venezuela Gulf Oil Co., and Standard Oil Co., of Venezuela (Creole) control a one-kilometer strip from the shore line into the lake, while Lago Petroleum Corp., controls the balance of the lake concession. On the Lago concession, producing wells have been drilled several miles from shore in 40 feet of water.

In restoring older wells, pumping is generally applied on the land concession and the one-kilometer marine strip, while the gas lift is used elsewhere. It is estimated approximately 50 per cent of the producing wells are pumping or on gas-lift and additional wells are being equipped with artificial lifting equipment at the rate of 75 to 100 per annum. This is resulting in a substantial increase in production.



Standard Oil Co., of Venezuela wildcat near San Juan River

V.O.C. Operations

Venezuelan Oil Concessions, Ltd., in its review states in part:

"In the Lagunillas field the three-string drilling program in operation was increased in April to four strings and in the middle of the year to seven strings. During the year 24 wells were completed, involving 73,367 feet of drilling, compared with 48 wells and 143,714 feet during 1934. Nearly all the new wells were drilled in the northeastern part, and the results were in accordance with expectations.

"Important work was done on repairing and reconditioning wells in the offset area which had suffered in underground mechanical condition, due to the cutting action of sand brought about by extraction of oil. A total of 67 wells were dealt with in this way and equipped with pumping units. The success of these operations is evident by increased production compared with 1934, the additional recovery amounting to approximately 20 per cent. The large amount of repair work carried out resulted in recovery of substantial quantities of casing, which can be used again.

"During the year small but gradually increasing quantities of water were produced with the oil in certain parts, a normal feature in development of many oil fields, and giving no cause for anxiety. It was considered necessary, however, to investigate the sources of the water and to take steps to control it by repairs to wells as required. One string was assigned to this work in September. To treat the wet crude produced an electrical dehydration plant of 12 units, of a type successfully employed in Venezuela in similar circumstances, was placed on order.

"At the end of 1935, out of a total of 215 producing wells, 65 were flowing naturally, 24 were producing by gas lift and 126 by pumping.

In the Maracaibo Lake district, outside the Lagunillas-La Rosa fields, the principal producing areas are the Mene Grande field and Tarra fields. It is anticipated with the reorganization of Colon Oil Corp., funds will be available for more active development of the Tarra district, on the Colon concession, approximately 15 miles from the Colombian border in the southwestern portion of the Maracaibo Basin, and about 20 miles from the Petrolea field on the Barco concession in Colombia.

The bulk of the new field activity and wildcat drilling in future is expected in eastern Venezuela. Quiriquire is the only major field in this district so far, but a number of wildcat wells drilled in the state of Monogas, west, east and south of the field from 20 to 70 miles, have produced small quantities of oil, a considerable quantity of gas, or had oil or gas showings. The latest is the Salto test in southwestern Monogas, in pure wildcat territory, reported to have had good oil showings at from 4,330 to 4,590 feet. It is drilling below 4,620 feet.

In the Pedernales district, on the Gulf of Paria approximately 70 miles east of Quiriquire, an important productive spot seems to have been located, but considerable difficulty has been encountered with the wells due to fineness of the sands. The best well so far, No. 1 Amacuro, was brought in late in 1935 at 5,100 feet with an initial production of approximately 800 bbls. daily. No. 2 Amacuro is drilling below 5,200 feet, and seems to have missed the productive sand.

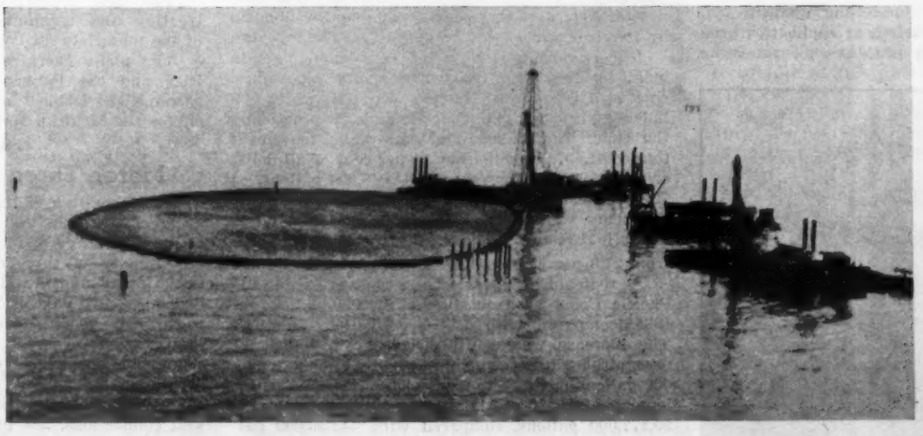
The Quiriquire field in May established its peak production of 2,038,303 bbls., a daily average of 65,743.

The May output of all fields in Venezuela was approximately as follows (figures in barrels):

	Total	Daily
Lagunillas	7,334,842	236,608
La Rosa-Ambrosio	1,698,950	54,805
Mene Grande	1,289,352	41,592
El Mene	63,984	2,064
Tarra	449,493	14,502
La Paz	14,601	471
Concepcion	105,152	3,392
Cumarebo	248,569	8,018
Quiriquire	2,038,030	65,742
Total	13,242,973	427,195

The production for May, by companies, was approximately as follows (figures in barrels):

	Total	Daily
Lago Petroleum Corp.	4,191,633	135,214
Venezuelan Oil Concessions, Ltd.	3,279,087	105,777
Standard of Venezuela	2,636,282	85,041
Caribbean Petroleum Co., Ltd.	1,289,352	41,592
Colon Development Co.	449,493	14,503
Venezuela Gulf Oil Co.	1,271,000	41,000
British Controlled Oilfields, Ltd.	63,984	2,064
North Venezuela Petroleum Co., Ltd.	62,142	2,004
Total	13,242,973	427,195



Blow-out of Lago Petroleum well in Lagunillas field. Circle is canvas wall supported by gasoline drums to prevent spread of oil. Two drilling barges and relief well in center. Two pile driver barges at right

Lago Petroleum Corp. was the leading producing company in May with a total of 4,191,633 bbls., a daily average of 135,214. Venezuela Oil Concessions, Ltd., ranked second with 3,279,087 bbls., or 105,777 daily, and Standard of Venezuela (Creole) third with a total of 2,636,282 bbls. and daily average of 85,041. This is a record output for Standard of Venezuela.

Lago Petroleum Corp. and Standard Oil Co. of Venezuela are controlled by Standard Oil Co., (New Jersey), while Venezuelan Oil Concessions, Ltd., Caribbean Petroleum Co., Ltd., and Colon Development Co., Ltd., are controlled by the Royal Dutch-Shell.

Natural Gasoline

Sales of Liquefied Gases

Sales of liquefied petroleum gases for domestic, gas company and industrial uses reached 76,855,000 gallons in 1935, or 20,428,000 gallons (36.2 per cent) more than the 1934 requirements of 56,427,000 gallons, according to reports submitted to the Bureau of Mines. The fast-growing market for liquefied petroleum gases during recent years is illustrated in the following table:

TABLE 1—SALES OF LIQUEFIED PETROLEUM GASES, 1930-1935, IN THOUSANDS OF GALLONS

Year—	Propane	Butane	Propane-butane mixtures	Pentane	Total
1930.....	11,500	.....	*6,517	....	18,017
1931.....	15,000	.....	*13,770	....	28,770
1932.....	15,182	14,662	2,417	854	34,115
1933.....	15,835	19,056	2,226	814	38,931
1934†.....	25,845	25,553	3,107	1,922	56,427
1935.....	34,655	34,084	5,651	2,465	76,855

*Butane, propane-butane mixtures and pentane.
†Revised figures.

The respective demands for the several liquefied gases all showed substantial gains in 1935. Deliveries of propane increased 34.1 per cent, while butane sales showed almost an identical raise, with an increase of 33.4 per cent. The market demand for propane-butane mixtures nearly doubled.

Industrial use was outstanding in 1935 when 47,894,000 gallons, or 62.3 per cent of all deliveries, fell under this classification, compared with 32,448,000 gallons, or 57.5 per cent, in 1934. Domestic use increased from 17,681,000 gallons in 1934 to 21,380,000 gallons in 1935, but the ratio to total deliveries declined from 31.3 per cent in 1934 to 27.8 per cent in 1935. The quantity used in gas manufacturing increased from 6,298,000 gallons in 1934 to 7,581,000 gallons in 1935.

The most important present use of propane gas is for domestic purposes, although the requirements in the industrial field are rapidly mounting. In 1935, 18,325,000 gallons of propane, or about 53 per cent of the total deliveries, were credited to domestic uses, compared with 15,236,000 gallons, or 59 per cent, in 1934. Industrial use of propane increased from 10,283,000 gallons, or 40 per cent, in 1934, to 15,628,000 gallons, or 45 per cent, in 1935.

Butane is used principally as an industrial fuel, 27,689,000 gallons out of total deliveries of 34,084,000 gallons being consumed in 1935, compared with 19,443,000 gallons in 1934 out of 25,553,000 gallons. Sales of butane to gas manufacturing plants declined from 5,064,000 gallons in 1934 to 5,042,000 gallons in 1935, but deliveries for domestic purposes in 1935, although small in volume, registered a 30 per cent gain.

The use of "bottled gas," usually propane, continued to increase in 1935, as householders, campers and other consumers, cut off from gas-company mains, became better acquainted with this convenient fuel. Manufacturers used both propane and butane in rapidly increasing quantities in 1935, in the solution of their heat application problems, especially in such processes as annealing, brazing, carburizing, metal cutting and preheating, where controlled temperatures are important. Liquefied petroleum gases are being used as the raw material in manufacture of an increasing number of chemical products. Petroleum refiners are finding ever-widening uses for propane and butane and are realizing these products are too valuable to use as refinery fuel. Propane is used as a solvent and refrigerant in refining lubricating oils. Polymerization of butane in manufacture of high-grade blending materials for motor fuel was transformed from the laboratory to the commercial stage in 1935. Although it may be some time before polymerization will restrict the supply of liquefied petroleum gases, it has greatly enhanced the economic importance of butane.

Propane storage tank including first stage reducing valves

Cutting risers from rough foundry castings with liquefied petroleum gas torch

The American Gas Association has furnished the following data regarding distribution of liquefied petroleum gases:

At the end of 1935, liquefied petroleum gas was being delivered through mains to consumers in 163 communities in 29 states by 68 companies supplying 29,516 customers.

Butane-air gas with heating value ranging from 520 to 900 B.t.u. per cubic foot was supplied to 105 communities in 28 states by 57 companies. A mixture of undiluted butane and propane gas with a heating value of 2,800 to 3,000 B.t.u. per cubic foot was supplied to 14 communities in California and Nevada by six companies. Undiluted propane gas with a heating value of 2,550 B.t.u. per cubic foot was supplied to 44 communities in Maryand, Minnesota, New Jersey, North Dakota and Wisconsin by five companies.

The shipment of liquefied petroleum gases in bulk, by tankcars, tank-wagons and pipe lines, showed a 50 per cent increase in 1935, while cylinder and drum shipments remained practically the same. The tankcar and tank-wagon movement totaled 61,457,000 gallons, or 80 per cent of all deliveries in 1935, compared with 41,048,000 gallons, or 72.7 per cent of the 1934 total. Cylinder and drum shipments were approximately 15,000,000 gallons for both 1934 and 1935, but the percentage dropped from 27.3 per cent in 1934 to 20 per cent in 1935.

A regional analysis shows deliveries in the Pacific Coast area totaling 17,678,000 gallons in 1935, compared with 11,471,000 gallons in 1934. The increase was confined largely to industrial uses, although gas companies required about 1,700,000 gallons more. The demand for liquefied petroleum gases east of the Rocky Mountains totaled 59,177,000 gallons, compared with 44,956,000 gallons in 1934. In this gain, propane sales account for about 7,800,000 gallons, and butane about 5,300,000 gallons. The industrial demand for liquefied gases in this area increased 11,000,000 gallons in 1935 compared with 1934, while deliveries for domestic use were greater by 3,500,000 gallons in 1935. The use of liquefied petroleum gas by gas companies east of the Rockies declined 420,000 gallons in 1935.

New Oklahoma City Plants

In the North Oklahoma City or "Mansion" area four gas plants are under construction, one being built for the Barnsdall Oil Co., designated as the Edwards unit, and another by Barnsdall and Fairfax, known as the Bracht unit. The Black Gold Refining Co. is building a plant on the Sawyer acreage and Hall & Brisco have located a plant on the Francis lease.

The new combination booster and gas-lift station under construction for the Phillips Petroleum Co. is nearing completion.

United Buys Clymore

HOUSTON, Tex., June 9.—The holdings of the Clymore Co., Inc., in the Agua Dulce field of Nueces County have been purchased by the United Gas System for $700,000.

The deal, handled through the Texon Royalty Co., turns over to the United the distillate wells of the Clymore, its leases and large casinghead gasoline plant. United and Clymore have controlled most of the properties in the field, with Clymore stripping gas from the 4,900-foot sand. The properties were shut in for a time by injunction due to alleged excessive waste of gas.

The United will connect all wells to the plant, strip the gas and turn the dry gas into the general pipe line system, it was reported.

Refinery Projects

W.P.R.A. Service Bureau

Twenty-six inquiries for supplies of gasoline meeting the new W.P.R.A. specifications were received by the Western Petroleum Refiners Association in the first week's operation of its new service bureau.

The bureau was established last week as a service to tankcar gasoline buyers and members of the W.P.R.A. A record of spot gasoline being offered by refiner members is kept up to the minute by the bureau and buyers are referred to the refiner most conveniently located having the required supplies.

New Mexican Unit

CHICAGO, June 8.—Petroleos de Mexico, S.A. (Petromex) a company controlled by the Mexican government, has just signed a Dubbs license contract and will built a Dubbs two-coil selective cracking unit in its refinery at Tampico.

The refinery now has a crude capacity of 3,000 bbls. a day and the Dubbs unit is to crack 1,100 bbls. a day. Petromex will build the unit under the supervision of Universal engineers.

The new construction program will include treating and rerunning equipment. Considerable of the materials used will be purchased in Mexico.

The plant operates on crude from the Poza Rica and the Panuco fields. Besides producing gasoline, the Dubbs cracking unit will furnish fuel oil for the Mexican National Railways.

Merge Three East Texas Units

The formation of the largest independent operating company in the East Texas field was announced on June 6, following consolidation of the oil interests of three operators in that pool. R. G. Trippett and A. H. Meadows of Shreveport, and J. W. Gilliland of Tyler pooled their interests to form the General American Oil Corp. chartered in Texas. The assets to include holdings of 18 smaller independently owned companies, will approximate $10,000,000. Physical property will include over 200 miles of gathering lines with 600 well connections, 225 producing wells, three small refineries, and two natural gasoline plants. Headquarters will be at Shreveport. Mr. Gilliland will be chairman of the board, Mr. Trippett president, and Mr. Meadows vice president-secretary-treasurer.

Natural Gas News

Arkansas Natural Promotions

SHREVEPORT, La., June 8.—D. W. Harris, vice president and general manager of Arkansas Natural Gas Corp., announces the appointment of C. W. Hughes as superintendent of the oil production department of the corporation. C. H. Stout, former superintendent of oil production in the East Texas district, will serve as assistant superintendent. R. W. Sole, of Wichita Falls, will succeed Mr. Stout as superintendent in East Texas.

C. W. HUGHES

Mr. Hughes, who has been with Arkansas Natural since the merger, in October, 1930, with Louisiana Oil Refining Corp., has been connected with the oil production department since, and for the past three years was assistant to the late A. C. Jamison, to whose position he has been promoted. Mr. Hughes became connected with Pierce Oil Corp. in 1917 until he entered the army. After the war he worked with D. R. Travis, Tulsa operator, until 1923, then with Freeborn Engineering Co., going to Pure Oil Co. in 1926 as production engineer, until 1929, when he joined Louisiana Oil.

Mr. Stout has been with the Arkansas and Louisiana companies about 17 years, coming from the Breckenridge and Eastland, Tex., districts, where he served as superintendent. Later he went to Wichita Falls.

Mr. Sole operated Arkansas Natural properties in conjunction with Columbus Oil Co. of Thermopolis, Wyo., for a number of years and served as superintendent in charge of production in North and West Texas.

Oklahoma Natural Gas

Oklahoma Natural Gas Co. has filed a registration statement with the S.E.C. under the securities act covering 22,200 shares of 6 per cent convertible prior preference stock and 133,200 shares of common stock to be reserved for conversion purposes. The shares of prior preference stock are to be issued to Gas Utilities Co. in exchange for $2,220,000 5 per cent notes of Oklahoma Natural Gas Co., which are to be cancelled. Gas Utilities Co. will sell the prior preference stock to Stone and Webster and Blodget, Inc., and their associates who in turn will offer the shares to the public. The offering price will be filed by amendment.

The company also filed an application covering an unstated amount of common stock to be offered to the public. Underwriters for these shares and offering price to public will be filed by amendment.

Oklahoma Rate Order

The Oklahoma State Corporation Commission summarily ended the five-year rate controversy with the Community Natural and Lone Star Gas companies by making permanent, without additional evidence, a temporary order issued in 1933 for reduction of 10 cents per 1,000 feet in the rate charged consumers in 26 southern Oklahoma towns.

C. C. Hatchett, company attorney, announced the decision would be appealed to the State Supreme Court and might eventually be fought out in federal court.

The commission ordered refunds to consumers totaling approximately $165,000.

The towns affected are Frederick, Durant, Hugo, Achille, Caddo, Davidson, Sulphur, Davis, Elmore City, Hastings, Hollis, Loco, Manitou, Marietta, Maysville, Mountain Park, Paoli, Pauls Valley, Purcell, Ryan, Snyder, Tipton, Walters, Waurika, Wayne and Wynnewood.

The commission on March 9, 1933, issued a temporary order for a reduction of 10 cents per 1,000 feet in the gate rate charged by the Lone Star, holding company for Community Natural distribution firm.

The order directed that Community Natural pass this saving on to the consumer at the burner tip. The ordered reduction was from 40 to 30 cents per 1,000 feet. Community Natural appealed, and the State Supreme Court in effect upheld the temporary order for reduction, but remanded the case to the commission for taking further evidence.

The refund, to be made from cash bond supplied by the utilities will be retroactive to March, 1933.

Under the new rate, if upheld by the State Supreme Court, the consumers would pay approximately $1.25 for the first 1,000 feet and 55 cents for each 1,000 feet thereafter.

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COMMITTEE CHAIRMAN

Fred A. Benkert, superintendent of the geological department of the Peoples Natural Gas Co., Pittsburgh, Pa., was chairman of the committee on arrangements for the meeting of the Eastern district, American Petroleum Institute of Production at Pittsburgh, June 4-5. He is secretary-treasurer of the district and a pioneer in the natural gas industry. A native of Hawthorn, Pa., he began with the Red Bank Gas Co. in 1900, becoming associated with the Peoples Natural Gas Co. six years later, subsequently becoming field superintendent and in 1933 superintendent of the geological department. His avocation is music, having been featured as a cornet soloist at the age of 5, and he has played with, instructed and directed bands and orchestras in western Pennsylvania for years.

El Paso Natural Gas

El Paso Natural Gas Co., in an amendment filed with the S.E.C. states that its $3,750,000 4¾ per cent convertible debentures will be offered publicly at 100, while the $7,500,000 4½ per cent first mortgage bonds will be offered at 98½.

The debentures are convertible on or before May 31, 1937, into 20 shares of common stock for each $1,000 debenture; thereafter and on or before May 31, 1939, into 19 shares of common stock; thereafter, and on or before May 31, 1941, into 18 shares of common; thereafter and on or before May 31, 1943, into 17 shares of common; and thereafter, and on or before May 31, 1944, into 16 shares of common.

Pipe Line Work

Stanolind Welch-Freeman Line

Stanolind Pipe Line Co., having been tendered the crude oil in storage near Clayton, Wyo., of Stanolind Crude Oil Purchasing Co., crude oil purchasing unit for Standard Oil Co. (Indiana), is proceeding to repair its branch pipe line extending from Welch station, Wyoming, to Freeman station, Missouri.

The Stanolind company has not operated this branch line since 1928. In 1931 the western third of the line was leased to the North Central Gas Co. and the eastern two-thirds to the Kansas Pipe Line & Gas Co. for use as a gas line. These gas companies having completed or almost completed their own lines, it is planned by Stanolind Pipe Line Co., after making the necessary repairs, to use this branch line at but a fraction of its capacity to move daily a limited amount of the storage oil from the Clayton tank farm to its main line at Freeman, Mo., for delivery to Standard of Indiana refineries. It is estimated the Wyoming branch will be in operation for this purpose from two and one-half to three years.

The repair work and operations of this branch line will be in charge of Supt. C. W. Butler, with headquarters in Kearney, Neb.

Missouri Pipe Line Tax

KANSAS CITY, Mo., June 8.—Federal District Judge Albert L. Reeves continued until June 19 a hearing on an injunction suit brought by the Ajax Pipe Line Co. of Tulsa against State Auditor Forrest Smith in an effort to prevent a $283,047 state income tax assessment against the company.

A temporary injunction was issued May 26 by Judge Reeves restraining Smith from making the assessment pending the hearing.

The Ajax lines traverse Missouri. The company's attorneys contended it was exempt from the levy because it was engaged solely in interstate business. Smith sought to collect the taxes allegedly due over a period from 1930 to 1935, inclusive.

Duplicate Pipe Lines

EDMONTON, Alberta, June 6.—Northwestern Utilities, Ltd., will this summer add 5½ miles to its partially constructed duplicate transmission line between Edmonton and the Viking field. Contract for the 12¾-inch pipe has been let. The company will carry out the usual inspection of its entire system, and will carry on the usual replacement work.

Mid-Continent Refinery Crude Runs During June at New 5 Year Peak

By W. T. ZIEGENHAIN

Refinery operations in the Mid-Continent area will establish a new peak for the year to date and will be higher than at any time since September, 1931. These data are based upon estimates of crude runs furnished largely by individual refiners as of the first of the month and reflect the optimism with which they face the coming months of high motor fuel consumption. To some, who are more concerned with the relatively high stocks of gasoline now in the industry's tanks, the increased operations may mean trouble ahead.

Whether the adopted attitude be optimistic or pessimistic certain facts stand out most forcefully. Over the nation gasoline stocks are admittedly high at 71,000,000 bbls. but individual operators in the Mid-Continent do not indicate his stocks are high and several important operators have indicated their higher schedules of runs were based upon an increase in motor fuel consumption for June and July of 5.5 to 8 per cent over a year ago and as a group they feel that the gasoline held in storage will be readily absorbed along with the additional output of gasoline coming from current crude runs. At the close of the season last year, these refiners say they were operating with stocks below an economic level so far as their own plants were concerned.

At that time, they choose to purchase a portion of their needs from plants located outside the Mid-Continent and of course, absorbed some East Texas gasoline for delivery to more distant points within the normal group 3 marketing territory. This year, these operators apparently plan to fill a greater share of their own needs from their own plants.

They point out that the Mid-Continent area holds only about 14 per cent of the gasoline in storage while its total crude runs account for 17 per cent of the refining operations over the country. On this basis, Mid-Continent refiners maintain, they are justified in boosting runs as well as plan to reduce stocks over the immediate future.

Mid-Continent Crude Runs

Average Daily (Barrels)

(Advance estimate compiled by The Oil and Gas Journal)

	1934	1935	1936
January	448,360	426,070	501,600
February	456,619	448,810	519,960
March	465,680	451,510	478,760
April	458,220	467,765	506,775
May	457,165	466,015	513,510
June	459,908	485,015	527,225
July	477,012	485,015	.....
August	501,750	508,960	.....
September	499,830	541,080	.....
October	500,755	523,620	.....
November	500,445	524,475	.....
December	440,735	511,025	.....

Operations by Refinery Districts

Daily crude runs

	June	May	Increase
Arkansas	21,900	21,900	.....
East Texas	59,000	54,105	4,895
Kansas	127,390	119,510	7,880
N. Central Texas	38,785	37,300	1,485
North Louisiana	37,600	38,800	*1,200
Oklahoma	159,260	156,335	2,925
Southwest Texas	18,860	19,310	*450
W. Tex.-Panhandle	64,430	66,250	*1,820
Total	527,225	513,510	13,715

*Decrease.

Kansas Operations

Of the various sections of the Mid-Continent Kansas shows the most pronounced increase in operations for June. In these plants 127,390 bbls. of crude will be processed daily, an increase of 7,880 bbls. over May. This brings Kansas within 32,000 bbls. of the total runs of Oklahoma plants and places Kansas in undisputed second position.

East Texas

The second greatest increase in runs was registered among East Texas refineries, but the total for the area remains relatively unimpressive. In these plants a total of 59,000 bbls. will be processed daily compared with 54,105 a month ago.

While Oklahoma and the North Central Texas groups showed small increases, these were more than overcome by estimated decreases in the runs among the West Texas, North Louisiana refiners.

Rodessa Small Factor

In the early stages of developing the Rodessa oil field, refiners in the Mid-Continent saw the possibility of many small plants being built in that area just as was done in the East Texas area. To date, however, this building program has failed to show itself and because of the relatively low octane rating of the straightrun gasoline made from the crude it is not likely that a building program will develop. The principal factor in causing such a movement would be a drastic cut in Rodessa oil prices and this also appears unlikely even for a short duration. Lacking the incentive to process cheap flush crude, there is little justification now to expect a large refining capacity to be built up in the Rodessa area because of the large amount of nearby idle capacity in the East Texas field. In the latter only 17 plants are operating while 31 are shut down and many more temporary units have been abandoned. Also, there is sufficient modern refining capacity in the East Texas area to supply the normal local needs.

Estimated Daily Average Mid-Continent Refinery Crude Runs for June

ARKANSAS

Company and location—	Daily capacity	Av. daily runs June	Av. daily runs May
Berry Asphalt Co., Waterloo	2,000	1,200	1,200
Henry H. Cross Co., Smackover	6,000	4,500	4,500
Lion Oil Ref. Co., El Dorado	12,000	9,000	9,000
Macmillan Pet. Corp., Norphlet	2,500	2,000	2,000
Ouachita Valley Ref. Co., El Dorado	2,500	(*)	(*)
Root Pet. Co., El Dorado	1,200	5,000	5,000
Simms Co., Smackover	3,000	(*)	(*)
Stephens Ref. Co., Stephens	750	200	200
Total	29,950	21,900	21,900

*Shut down.

KANSAS

Company and location—	Daily capacity	Av. daily runs June	Av. daily runs May
Barnsdall Oil Co., Wichita	4,000	3,500	3,000
Chase Ref. Co., Chase	1,000	500	800
Cusco Oil & Ref. Co., Chase	3,100	1,000	(*)
Derby Oil Co., Wichita	8,000	6,500	4,600
Dickey Ref. Co., McPherson	2,500	1,700	1,700
Eldorado Ref. Co., Eldorado	5,000	4,000	3,800
Falcon Ref. Co., Inc., Great Bend	800	550	700
Globe Oil & Ref. Co., McPherson	12,000	7,000	7,000
Kanotex Ref. Co., Arkansas City	12,000	6,500	6,500
Kansas Gasoline Co., Winfield	150	40	35
Kreuger Ref. Co., Laton	150	50	50
National Ref. Co., Coffeyville	8,000	5,500	5,000
Pet. Products Co., Chanute	1,000	800	800
Phillips Pet. Co., Kansas City	18,000	14,000	13,225
Russell Ref. Co., Russell	2,500	1,250	800
Shell Petroleum Corp., Arkansas City	20,000	18,000	18,000
Sinclair Ref. Co., Coffeyville	20,000	8,500	7,000
Sinclair Ref. Co., Argentine	11,000	7,000	7,000
Skelly Oil Co., Eldorado	23,000	18,500	17,000
Socony-Vacuum Oil Co., Inc., Augusta	16,000	15,000	15,000
Standard Oil Co. (Indiana), Neodesha	20,000	4,500	4,500
Vickers Pet. Co., Potwin	3,500	3,000	3,000
Total	191,700	127,390	119,510

*Shut down.

OKLAHOMA

Company and location—	Daily capacity	Av. daily runs June	Av. daily runs May
Anderson-Prichard Oil Corp., Cyril	6,000	4,500	4,500
Associated Pet. Corp., Allen	8,000	(*)	(*)
Barnsdall Oil Co., Barnsdall	6,000	3,500	3,500
Barnsdall Oil Co., Okmulgee	10,000	5,000	3,000
Bell Oil & Gas Co., Grandfield	4,500	2,800	2,000
Black Gold Ref. Co., Oklahoma City	3,000	2,000	1,500
Century Pet. Corp., Oklahoma City	2,500	(*)	(*)
Champlin Ref. Co., Enid	16,000	6,500	6,000
Continental Oil Co., Ponca City	30,000	24,000	25,800
Crescent Ref. Co., Holdenville	1,000	(*)	(*)
Cushing Ref. & Gasoline Co., Blackwell	1,700	1,500	1,500
Cushing Ref. & Gasoline Co., Cushing	6,200	2,500	2,500
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Eason Oil Co., Enid	5,000	2,500	2,800
Empire Oil & Ref. Co., Okmulgee	4,000	2,500	2,500
Empire Oil & Ref. Co., Ponca City	12,000	9,000	9,000
Globe Oil & Ref. Co., Blackwell	3,000	3,500	3,000
Government Ref. Co., No. 3, Seminole	800	(*)	(*)
Johnson Oil Ref. Co., Cleveland	6,000	4,000	4,000
Marathon Oil Co., Bristow	5,000	2,700	2,580
Mid-Continent Pet. Corp., West Tulsa	40,000	18,000	18,000
Monarch Ref. Co., Oklahoma City	2,000	900	900
Olympic Ref. Co., Oklahoma City	2,500	(*)	(*)
Omar Ref. Co., Garber	8,000	2,800	2,500
Paramount Ref. Co., Oklahoma City	2,000	(*)	(*)
Peacock Ref. Co., Oklahoma City	2,000	(*)	(*)
Peppers Gasoline Co., Oklahoma City	500	200	200
Phillips Pet. Co., Okmulgee	6,000	5,000	4,030
Pure Oil Co., Muskogee	10,000	8,000	8,000
Rock Island Ref. Co., Beckett	6,000	2,500	2,500
Sinclair Ref. Co., Sand Springs	8,000	4,500	2,000
Sooner State Ref. Co., Oklahoma City	700	460	400
Sun Oil Co., Yale	5,000	2,000	2,000
Sunray Oil Co., Allen	7,000	3,200	3,290
Texas Co., West Tulsa	15,000	11,000	11,000
Tide Water Oil Co., Drumright	15,000	12,500	13,000
Triangle Prod. & Ref. Co., Oklahoma City	1,500	1,000	1,200
S. L. West Ref. Co., Oklahoma City	1,000	200	200
Wilcox Oil & Gas Co., Bristow	6,000	1,500	1,935
Wirt Franklin Pet. Corp., Ardmore	4,000	(*)	(*)
Yale Oil Corp., Yale	2,000	(*)	(*)
Total	289,900	159,260	154,335

*Shut down.

NORTH LOUISIANA

Company and location—	Daily capacity	Av. daily runs June	Av. daily runs May
Acme Ref. Co., Monroe	100	50	50
Atlas Pipe Line Co., Shreveport	12,500	7,500	7,500
Bayou State Oil Corp., Hosston	750	300	300
Griswold Refineries, Shreveport	2,500	1,000	1,500
Griswold Refineries, Sandra	5,000	2,500	2,000
Louisiana Oil Ref. Co., Bossier City	25,000	19,500	21,000

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If you think these are small points, just run time and strength comparisons on *other* kinds of weld! Tube-Turns, Incorporated, Louisville, Ky.

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Company and location—	Daily capacity	Av. daily runs— June	May
Pelican Ref. Co., Converse ..	100	50	50
Rodessa Oil & Ref. Corp., Cedar Grove	7,500	4,100	3,800
Shoreline Oil Co., Lewis	1,000	600	600
Stanolind Oil & Gas Co., Superior	4,500	2,000	2,000
Texas Co., Shreveport	7,000	(*)	(*)
Total	65,950	37,600	38,800

*Shut down.

EAST TEXAS

Acme Ref. Co., Longview ...	1,250	(*)	(*)
Admiral Ref. Co., Kilgore ..	2,500	310	640
Ardell Ref. Co., Gladewater.	1,250	(*)	(*)
Artex Ref. Co., Arp.	1,200	(*)	(*)
Ash Ref. Co., Gladewater ...	1,500	170	160
Bartlett Ref. Co., Kilgore ...	2,500	(*)	(*)
Beacon Ref. Co., Henderson..	4,000	(*)	(*)
Caddo Ref. Co., Camp Switch	1,000	(*)	(*)
Cascade Ref. Co., Reeds Switch	3,000	440	1,600
Central Ref. Co., Gladewater.	2,000	(*)	200
Century Ref. Co., Friars Switch	2,500	(*)	(*)
Chief Ref. Co., Gladewater ..	2,000	(*)	80
Clay Ref. Co., Arp	2,500	1,000	1,000
Danciger Refineries, Inc., Longview	10,000	3,500	3,000
Deason Ref. Co., Turnerstown	500	(*)	(*)
Dominant Ref. Co., No. 1, Kilgore	4,000	(*)	(*)
Dominant Ref. Co., No. 2, Kilgore	2,000	(*)	(*)
East Texas Ref. Co., Longview	20,000	2,100	6,130
Elk Ref. Co., Kilgore	4,000	(*)	(*)
G. & P. Ref. Co., Overton ...	1,000	(*)	(*)
Gilliland Ref. Co., Arp	4,000	2,400	440
Gilliland Ref. Co., Gladewater	4,000	3,100	2,580
Gilliland Ref. Co., Overton ..	5,500	3,180	2,205
Glade Ref. Co., Gladewater ..	1,000	(*)	(*)
Goodson Ref. Co., Gladewater	1,000	(*)	(*)
Hub Oil Ref. Co., Reeds Switch	750	(*)	(*)
Hurricane Pet. Corp., Overton	5,000	4,000	2,655
Hurricane Pet. Corp., Arp Ref., Arp.	3,000	1,790	1,775
H. I. Johnson Ref. Co., Kilgore	1,000	(*)	(*)
Keystone Ref. Co., Gladewater	1,000	35	(*)
Kilgore Reclamation Co., Kilgore	2,000	(*)	(*)
Kil-Tex Ref. Co., Kilgore ..	1,000	(*)	(*)
Lago Ref. Co., Gladewater ..	2,500	400	370
La Petite Ref. Co., Henderson	900	(*)	(*)
La Pren Ref. Co., Kilgore ..	2,500	(*)	(*)
Lone Star Ref. Co., Gladewater	3,000	2,600	2,600
Lotus Ref. Co., Gladewater..	1,750	(*)	(*)
Magnolia Pet. Co., Corsicana.	5,000	4,000	4,000
Master Pet. Co., Waco	1,000	(*)	(*)
Morgan Ref. Co., Camp Switch	1,000	(*)	(*)
Matthews Ref. Co., Gladewater	1,000	(*)	(*)
North Texas Ref. Co., Gladewater	1,500	(*)	(*)
Ocean Pet. Corp., Kilgore ...	3,000	410	1,985
Outdoor Ref. Co., Kilgore ...	900	(*)	(*)
Overton Ref. Co., Overton ..	3,000	(*)	(*)
Ozozo Ref. Co. No. 2, Overton	10,000	(*)	(*)
Panama Ref. Co., Kilgore ...	3,000	450	470
Petroleum Cracking Corp., Camp Switch	4,200	(*)	(*)
Premier Oil Ref. of Texas, Willow Springs	4,000	3,400	2,635
Producers Oil & Ref. Co., Kilgore	3,000	(*)	(*)
Rusk Oil & Ref. Co., Overton	4,000	(*)	1,000
Sabine Ref. Co., Gladewater..	500	(*)	(*)
Saxet Ref. Co., Gladewater..	1,500	50	50
Sinclair Ref. Co., Camp Switch	3,500	2,000	2,030
Smith Ref. Co., Gladewater..	1,500	(*)	(*)
Solvex Refineries, Inc., Gladewater	4,500	2,200	2,120
Southern Oil Ref. Co., Reeds Switch	2,000	(*)	(*)
Southport Pet. Co., Kilgore..	5,000	1,980	1,730
State Ref. Co., Kilgore	800	(*)	(*)
Superior Ref. Co., Kilgore ...	1,000	(*)	(*)
Supreme Ref. Co., Gladewater	1,000	(*)	(*)
Swastika Ref. Co., Kilgore..	2,200	(*)	(*)
Texas Co., The, Dallas	16,000	8,000	8,000
Texas National Ref. Co., Gladewater	1,500	160	155
Texas Oil Products Co., Longview	3,000	1,350	1,570
Trinity Ref. Co., Gladewater.	6,000	2,000	1,950
Tower Ref. Co., Overton	3,000	2,000	1,955
Tyler Tex. Ref. Co., Tyler ..	10,000	2,790	1,370
Tyreco Ref. Co., No. 1, Arp..	1,500	650	650
Tyreco Ref. Co., No. 2, Overton	3,000	2,240	2,240
Union Ref. Co., Kilgore	3,000	(*)	(*)
Upshur Ref. Co., Gladewater	750	(*)	(*)
Utah Ref. Co., Kilgore	3,000	(*)	(*)
View Ref. Co., Kilgore	2,000	(*)	(*)
Wabash Ref. Co., Gladewater	800	170	250
Western Ref. Co., Gladewater	1,500	(*)	(*)
Western States Ref., No. 2, Kilgore	3,000	(*)	(*)
Wilemon Ref. Co., Overton ..	500	125	100
Youth Ref. Co., Big Sandy ..	1,000	(*)	(*)
Total	243,750	59,000	59,695

*Shut down.

NORTH CENTRAL TEXAS

Allstate Ref. Co., Thrall	2,500	1,000	(*)
Baird Ref. Co., Baird	1,500	1,300	1,300
Canyon Oil & Gas Co., Inc., Cisco	500	(*)	(*)
Continental Oil Co., Wichita Falls	6,000	4,000	4,000
Empire Oil & Refining Co., Gainesville	5,000	(*)	(*)
Exchange Pet. Corp., Albany	300	300	300
Falls Ref. Co., Wichita Falls.	2,000	300	300
Gratex Ref. & Fuel Oil Co., Graham	300	285	300
Gulf Ref. Co., Fort Worth ..	10,000	5,000	5,000
Haskell Oil Ref. Co., Breckenridge	200	(*)	(*)
Hightower Oil & Ref. Corp., Brownwood	750	150	200
Imperial Gas Corp., Fort Worth	1,200	300	300
Jacksboro Ref. Co., Jacksboro	50	50	50
La Salle Pet. Co., Burkburnett	3,500	800	800
Magnolia Pet. Co., Fort Worth, No. 1	12,000	5,000	5,000
Marathon Oil Co., Fort Worth	5,000	4,300	4,000
Norgold Ref. Co., West Olney	400	200	200
Olney Oil & Ref. Co., North Olney	3,500	2,000	1,800
Omega Ref. Co., Brownwood.	200	(*)	(*)
Panhandle Ref. Co., Wichita Falls	4,000	2,700	2,700
Panhandle Ref. Co., Leuders.	1,000	650	600
Pilot Point Ref. Co., Pilot Point	500	100	100
Sinclair Ref. Co., Fort Worth	5,000	3,000	3,000
Southland Ref. Co., Megargel	500	200	200
Southland Ref. Co., Olney ...	1,000	(*)	(*)
Superior Ref. Co., Tiffin	800	(*)	(*)
Taylor Ref. Co., Taylor	6,000	800	800
Taxman Ref. Co., Wichita Falls	3,500	2,500	2,500
Texas Pacific Coal & Oil Co., Caddo	1,000	700	700
Tucker Ref. Co., Wichita Falls	250	150	150
Wagoner Ref. Co., Electra..	6,000	3,000	3,000
Total	84,950	38,785	37,300

*Shut down.

SOUTHWEST TEXAS

Amsco Ref. Co., Mirando City	4,500	3,500	3,500
Humble Oil & Ref. Co., San Antonio	5,000	3,000	3,000
Magnolia Pet. Co., Luling ...	7,000	4,000	4,000
Midway Oil & Ref. Co., Pettus	1,000	500	500
Pettus Ref. Co., No. 1, Pettus	1,000	500	900
Pettus Oil & Ref. Co., No. 2, Pettus	1,000	700	750
Pettus Ref. Co., Mathis	1,000	500	500
Phoenix Ref. Co., San Antonio	1,200	1,200	1,200
Phoenix Ref. Co., Bruni	900	400	400
Pioneer Oil & Ref. Co., Somerset	2,000	1,300	1,300

OBITUARY

FERDINAND W. ROEBLING, JR., president. John A. Roebling's Sons Co., died Friday, May 29.

PAUL E. ELLIS, 55, a widely-known drilling contractor, formerly of Tulsa, died June 3 at Pampa, Tex.

CYRUS H. McCORMICK, retired chairman of the board, International Harvester Co., died June 2 at his home in Lake Forest, Ill.

THOMAS E. BRESAN, aged 44, an executive of Socony-Vacuum Oil Co., New York, died near Watford, Ontario, on May 28. He was a native of Oil City, Pa.

B. D. TOWNSEND, of Denver, a pioneer operator in the Salt Creek field, Wyoming, formerly connected with the New York Oil Co, died in Los Angeles last week.

ROBERT A. BELL, formerly well known in the Petrolia, Ontario, field as an associate of the late Nat Wade, and for many years connected with Wallace Bell Co. at Montreal, died at Shawbridge, P. Q., recently, aged 75.

BURTON A. GARBER, 64, pioneer Oklahoma merchant and oil man, died June 4 at Enid, Okla., after an illness of four years. With his brother, M. C. Garber, former congressman, he secured the original leases that opened the old Billings oil field east of Garber.

WALTER C. HALL, 57, sales representative for the S. R. Dresser Manufacturing Co. for more than nine years, passed away April 30. At the time of his death he was Eastern sales representative with headquarters at Allentown, Pa., but he first went to work in the Midwest, working out of Cleveland, and was widely known in the gas and water industries.

FREDERICK W. JAMES died at Chatham, Ontario, May 16, following a motor accident. A native of England, Mr. James learned the natural gas business with Provincial Natural Gas Co. in the Welland field. From 1913 to 1923 he was superintendent and later general manager of Union Natural Gas Co. He was one of the organizers and a director of the Natural Gas and Petroleum Association of Canada.

Company and location—	Daily capacity	Av. daily runs— June	May
Rado Ref. & Prod. Co., McAllen ..	500	200	200
Texas Co., San Antonio	3,000	3,000	3,000
Valley Ref. Co., Huntington..	1,600	60	60
Total	29,100	18,860	19,310

*Shut down.

WEST TEXAS AND PANHANDLE

Active Oil Co., Arno	1,500	(*)	(*)
Aero Ref. Co., Pecos	220	100	100
Coltex Ref. Co., Colorado	12,500	8,000	8,000
Concho Ref. Co., San Angelo.	250	100	100
Cosden Oil Co., Big Spring ..	10,000	8,500	8,500
Danciger Refs., Inc., Pampa..	6,500	4,500	5,000
Gibson Oil Corp., Magic City.	250	100	100
Gulf Ref. Co., Sweetwater ...	7,500	4,500	4,500
Hill Ref. Co., Ballinger	100	(*)	50
Howard County Ref. Co., Big Spring	1,500	600	600
McNutt Ref. Co., El Paso ...	2,000	750	750
Moutray Oil Co., Hawley ...	1,200	980	800
Muenster Ref., Abilene	300	(*)	(*)
New Deal Ref. Co., Abilene.	300	(*)	(*)
Nolting Ref. Co., Sweetwater	1,000	(*)	(*)
Onyx Refining Corp., Hawley	1,200	1,000	1,000
Panhandle Ref. Co., Kings Mill	2,000	1,600	1,700
Paramount Pet. Co., San Angelo	2,000	(*)	(*)
Phillips Pet. Co., Borger	50,000	20,000	19,350
Shamrock Oil & Gas Corp., Sunray	2,500	1,500	1,500
Shamrock Oil & Gas Corp., Meldavis	1,600	1,500	1,500
Sinclair Ref. Co., El Paso ...	4,000	(*)	(*)
Southtex Ref. Co., Trent	250	(*)	(*)
Standard Oil Co. of Texas, El Paso	14,000	6,100	7,700
Starlight Ref. Co., Ballinger.	500	(*)	400
Texas Co., El Paso	2,000	1,000	1,000
Texas Co., Amarillo	4,000	3,000	3,000
West Texas Ref. Co., Pecos City	6,000	(*)	(*)
Western Ref. Co., Mertzon ..	100	(*)	(*)
Western Ref. Co., Baldridge	1,000	(*)	(*)
Wickett Pet. Co., Wickett ...	2,500	600	600
Total	138,770	64,430	66,250

*Shut down.

Illinois-Indiana Oil Men Hold Annual Conference

ROBINSON, Ill., June 8.—The fourth annual conference of the Illinois-Indiana Petroleum Association was held at Robinson, Ill., during the day and evening Saturday, June 6.

The morning session was addressed by Doctor Weller of the State Geological Survey on "Geology and Oil and Gas Possibilities of the Illinois Basin," followed by Professor DeWolf, head of the department of geology of the University of Illinois, with an explanation of "Seismograph Methods Applied to Finding Oil Structures." These two talks together with the demonstration of a core analysis occupied the morning. The afternoon session was devoted to an informal discussion of operating problems.

O. D. Donnell, president of the Ohio Oil Co., was the principal speaker at the annual dinner at the Crawford County Country Club.

Safety Department to New York

Headquarters of the American Petroleum Institute Department of Accident Prevention has been transferred from Dallas, Tex., to New York. H. N. Blakeslee, director, has his office in Room 1832, R.C.A. Building, 50 West Fiftieth Street. Miss Roxy Cody, secretary to Director Blakeslee for five years, will continue in that position.

U. S. C. Field Trip

LOS ANGELES, Calif., June 8.—The annual spring field trip of the petroleum production class of the University of Southern California, Los Angeles, to the coast oil fields and the various fields in the San Joaquin Valley lasted for four days. The class was under the direction of Prof. John F. Dodge and included Lee Hogan, Ralph Schmidt, David Davis, Victor King, Albert Kitchen, Dee Knox, Thomas Wilson, Larry Cannon, James Hugg, Melvin Hugg, Jim Donlin and John R. Rumbaugh.

France Protects Refineries

The government of France on May 13, 1936, issued regulations providing for the protection of all oil refineries in France from air attacks. One set of regulations applied to existing plants, and another set applies to new refinery construction. In connection with the latter, underground shelters must be provided and special equipment for fire protection and camouflaging.

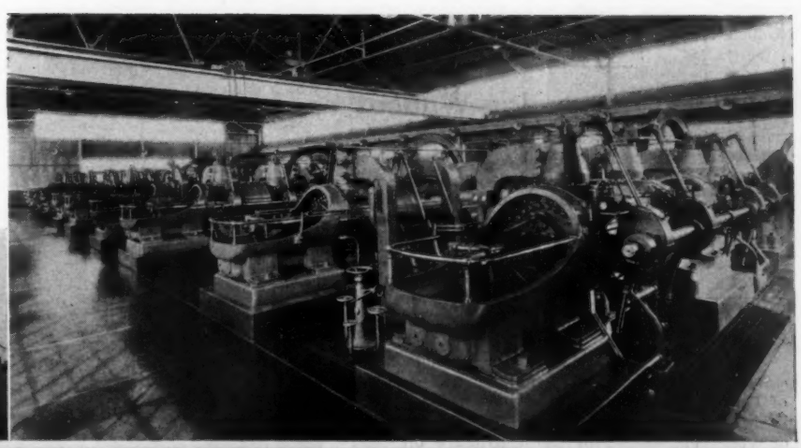
Foresight!

PANHANDLE EASTERN Adds 14 twin COOPER-BESSEMERS to long gas line ..... 17,600 H.P.

IN placing the largest order for compressors since 1930, the Panhandle Eastern Pipe Line Company steps up the original 14,760 Cooper-Bessemer horsepower on the Panhandle line to 33,560 H. P. This increased capacity will feed the new 300-mile extension to Detroit.

With customary foresight, the Panhandle management has again chosen the same make of twin-tandem gas-engine-driven compressor units as before: twelve Cooper-Bessemer units of 1300 H. P. each, and two rated 1000 H. P. each. Cooper-Bessemer four cylinder vertical engines were also chosen for the auxiliary power in these new Cooper-Bessemer equipped stations.

These pictures show the exterior and interior of a typical main-line compressor station erected along the 1350-mile Panhandle line in 1930. The new stations at Houstonia, Mo., Haven, Kans., Greensburg, Kans., and Stinnett, Tex., will also contain Cooper-Bessemer main and auxiliary power.



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Oil News from Foreign Lands

New Russia Refinery

The Russian Oil Trust has started production in its new refinery installation at Pyatakov. The new plant has a daily capacity of approximately 20,000 bbls. daily, and is expected to yield approximately 33⅓ per cent of light ends. The Caspian-Orsk pipe line, opened late in 1935, has not yet been brought up to full capacity. This line, some 500 miles in length, ultimately is expected to have a capacity of about 35,000 bbls. of oil daily. Oil is now being delivered through another line, also recently completed, from the Makhach-Kala field to Grozny. This line has a capacity of about 15,000 bbls. daily.

U.S.S.R.

The U.S.S.R. Chamber of Commerce "Economic Survey" reports that the Frunze Engineering Works at Sumsk has completed two large steam refinery pumps, the first of the type to be manufactured in Russia. Previously pump equipment has been purchased in the United States.

A substantial revival in the Russian oil industry is indicated by recent field developments. These include the establishment of a new field in the interior at Utchkizil, being operated by the Sredazneft Oil Trust. Wells Nos. 1 and 5 have been completed as gushers at a depth of approximately 1,300 feet, while Nos. 2, 3 and 4 are drilling. In an extension of the Grozny field, well No. 8 recently was completed as the largest so far drilled, with production coming from a depth of 4,900 feet. It lies approximately in the center of the extension area known as the Izberbash district.

Increased pipe line capacity which will give the Grozny district an enlarged outlet to the Caspian Sea is now near completion and a new shipping terminal is being constructed at Makhach on the Caspian. The capacity of the line from Guriev, on the Caspian, to the interior refinery at Orsk, is being substantially increased.

A considerable part of the expansion now under way is for the purpose of providing for increasing domestic oil requirements, rather than making possible increased exports.

Oil prospecting in the interior of the Soviet Union has been going forward actively with some new drilling planned in the Leningrad region, and also in northern Siberia, near the mouth of the Yenisei River, within the Arctic Circle.

Eastern Venezuelan Wildcat

Advices from Venezuela state that Standard Oil Co. of Venezuela obtained a good showing of oil in its wildcat test, El Salto No. 1, in southwestern Monogas, Eastern Venezuela. A general strike of workers in the Lake Maracaibo district is reported to have been ended. Oil operations and shipments were said to have been resumed after a brief shut-down. Conditions in Venezuela are working out satisfactorily, according to a statement attributed to Eugene Holman, president of Creole Petroleum Corp., at the annual meeting in New York. Creole controls Standard Oil Co. of Venezuela, owner of the Quiriquire oil field in Eastern Venezuela. Mr. Holman stated net earnings of Creole Petroleum Corp. in the first four months of 1936 ran at approximately the same rate as in the corresponding period last year. Production of crude averaged 78,954 bbls. daily, against 74,973 bbls. daily last year. The company received an average of 79 cents per barrel for its crude in the first quarter of 1936, against 75.42 cents in the first quarter of 1935. Directors of Creole, Mr. Holman said, will consider declaration of another dividend. Directors were re-elected.

VENEZUELA

Confidence in the Venezuelan oil outlook was also expressed in the annual report of British Controlled Oilfields, Ltd., D. Elliot Alves, president, stated in part: "One event of great importance which occurred during 1935 was the death of the late President of Venezuela. A certain amount of disorder took place in Caracas and Maracaibo and on the Lake oil fields, but the prompt measures taken by the acting president, General Lopez Contreras, soon restored order. We had no trouble at all on our field in the Buchivacoa concession (El Mene), at La Estacada, our loading point, nor on our railway of 35 miles, which connects these two places. Our relations with the Venezuelan government and its officials are extremely cordial, and we receive every assistance in carrying out our operations."

In the Orinoco Delta, in Eastern Venezuela, where the British Controlled Oilfields transferred part of its holdings to the Standard Oil Co. of Venezuela in exchange for a cash payment and a royalty on oil produced, drilling is expected to be started by Standard during 1936.

Crude oil production in Venezuela of the Royal Dutch-Shell subsidiaries for the four weeks ended May 9, 1936, was as follows (figures in barrels):

	Total	Daily
Caribbean Petroleum Co., Ltd....	1,164,600	41,592
Venezuelan Oil Concessions, Ltd:		
Lagunillas	2,219,900	79,282
La Rosa	632,700	22,632
Concepcion	95,000	3,392
La Paz	13,200	471
Colon Development Co., Ltd.	*406,100	*14,503
Total	4,532,500	161,872

*Figure for four weeks ended May 9.

Fushan Liquefaction Plant

Japanese interests are reported to be planning the construction of a large plant for the liquefaction of coal at Fushan, Manchukuo. The plant will be located on the South Manchurian Railway and will be accessible to extensive coal deposits. Present plans are to develop the plant until it is large enough to supply a substantial portion of Japanese oil requirements. Manchukuo, which is rich in coal, has no commercial petroleum production at this time.

MANCHUKUO

New Argentine Concession

The Department of Mines of the province of Salta has announced the granting of an oil concession involving approximately 10,000 acres, to a subsidiary of the Standard Oil Co. of New Jersey. Subsidiaries of this company already hold substantial concessions in this district and have an important field, known as the Salta oil district. A new field is reported to have been discovered by the company at Lomas de Olmedo, in the department of Oran.

ARGENTINA

Carib Syndicate Meeting

Carib Syndicate, Ltd., has called a special meeting of stockholders for June 12 to act on a proposal to increase authorized capital of the company to 2,000,000 shares, from 800,000 of 25 cents par value. H. J. Wasson, president, states the increase is to enable the company to be in a position to offer stockholders the right to maintain their position in Colombian Petroleum Co., in which Texas Corp. and Socony-Vacuum Oil Co., Inc., acquired a beneficial ownership of approximately 79 per cent recently. Carib owns approximately 21 per cent of the stock of Colombian Petroleum.

COLOMBIA

Mr. Wasson states that Texas and Socony-Vacuum may take steps to increase the present authorized capital of Colombian Petroleum Co., namely 100,000 shares of $100 par value and to offer all or part of this increase for subscription by the present stockholders.

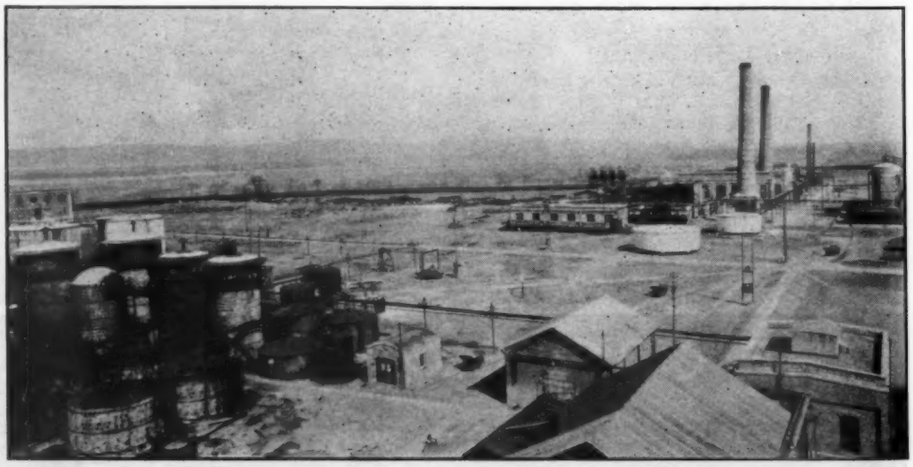
"The purpose of increasing capital of Colombian Petroleum Co. is to provide the necessary funds to carry forward the development work on the Barco concession, in Colombia. Cash available from the last increase and sale of capital stock of Colombian Petroleum Co. has now been exhausted and the provision of further funds for that company is, in the opinion of the board of directors, a necessary step.

"Directors do not at this time make a recommendation as to whether or not additional stock in Colombian Petroleum Co. should be acquired in the event of such stock increase by that company," Mr. Wasson says.

Crude oil production in Colombia for April amounted to 1,427,193 bbls., a daily average of 47,573 bbls., compared with 1,377,299 bbls., or 45,910 bbls. daily, in April, 1935. Production is from the DeMares concession, controlled by International Petroleum Co., Ltd.

Production by months during the first four months of 1936 and 1935, is shown in the following table (figures in barrels):

	1936	1935
April	1,427,193	1,377,299
March	1,619,620	1,446,321
February	1,475,403	1,141,696
January	1,611,618	1,653,647
First four months	6,133,834	5,619,463



Romana-Americana refinery, Teleajen, Rumania

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Starting the Season

Available information since the first of June, the start of the main gasoline consuming season, shows that predictions of a record demand for motor fuel were not overestimated. The indications are that maximum consumption will continue for the next 90 or 120 days although the rate of gain may not be maintained throughout the second half of the year because of the exceptionally large increase in that period of last year.

But that is only part of the picture. The industry started the season with 10,000,000 barrels of gasoline in stock above the total stocks of a year ago.

This is the equivalent, with 45 per cent yield, of 22,000,000 barrels of crude or 180,000 barrels daily for the next 120 days. It is the reflection, as President Byles told the A.P.I. meeting in Pittsburgh, of crude production running more than 400,000 barrels a day above early May last year, and runs to stills more than 300,000 barrels a day in excess of a year ago.

Current crude production is still 281,000 bbls. larger than for the same week last year. When production soared above 3,000,000 barrels a few weeks ago it was 345,000 barrels above last year's comparable total.

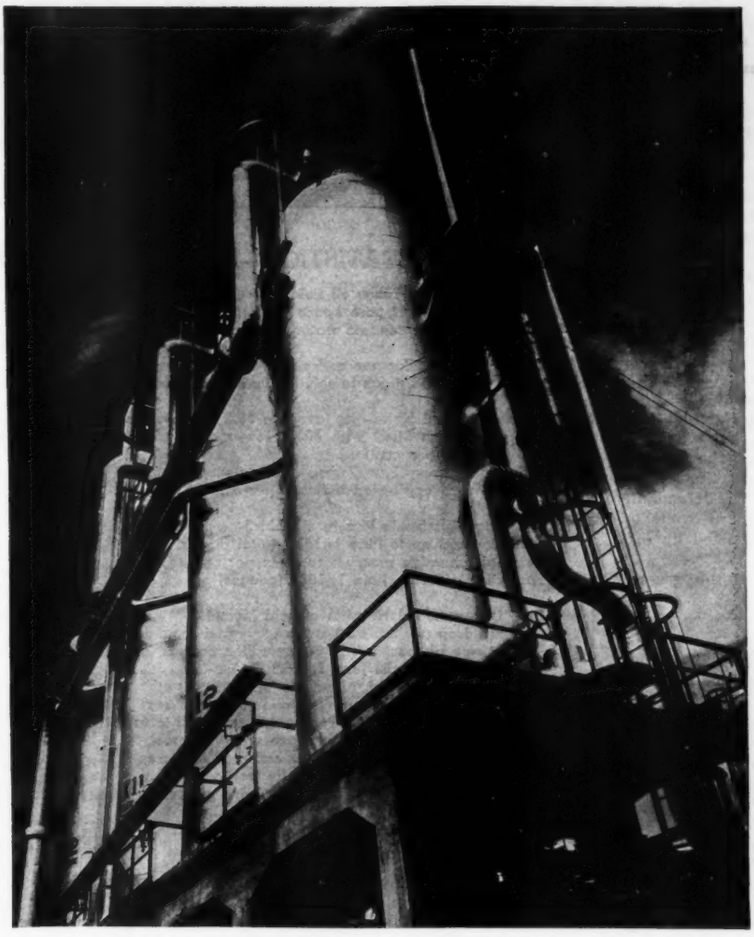
If current operations continue geared to supply maximum current demand the industry is going to find itself entering the season of lessened consumption next fall with 10,000,000 barrels of gasoline above normal, an ominous prospect for stabilization during the winter.

To escape that danger it is squarely checked up to producers and refiners to regulate their operations so that excess stocks may be reduced during the peak of consumption. They can be absorbed during the main consuming season with the minimum of disturbance whereas their retention until the end of the season may easily prove disastrous.

The figures on oversupply, in terms of gasoline or crude oil, should be a factor in the calculations and operations of every producer and refiner, as they inevitably will be in the eventual outcome for the industry at large.

Upon this will depend whether 1936 will be better than or as good as 1935 for the oil industry. There are encouraging indications in the greater readiness of individual producers to cooperate as they realize the practical issue. The top-heavy accumulation of gasoline stocks was due in large part to the exceptional need for fuel oil last winter but that experience should warn refiners to keep motor fuel stocks normal especially on the eve of winter.

Remedial effort should be comparatively easy at this time. The crude production situation is steadier and the factors fairly defined. What is needed is better realization of the necessity for immediate action.



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Poor Proration Methods in East Texas Threaten Big Loss in Final Recovery

By L. G. E. BIGNELL

Several of the major oil companies operating in the East Texas field are being sued by land and royalty owners, the basis for the suits being the claims of the plaintiffs that the defendant companies have not drilled as many wells upon their leased land as have been drilled by adjacent operators. Because of this the plaintiffs make the claim that they have been deprived of the benefits of recoverable oil that might have been had if the defendants had drilled as many wells on their leases as existed on offset tracts.

On the fact of the general claims of the land and royalty owners it would seem very logical to assume that "more wells, more oil" is self-evident, but such an assumption is made without taking into consideration many legal and engineering facts well established by long research and experimenting in the East Texas field by the major companies.

In affidavits filed by the defendants and plaintiffs in these suits many important facts concerning the East Texas field have been set forth, and from those sworn statements much of the following data have been taken. The table accompanying this article contains statistics gathered from the affidavits and other recognized sources, and the columnar section shows typical geological data between Austin Chalk and Georgetown lime.

STATISTICS—EAST TEXAS FIELD

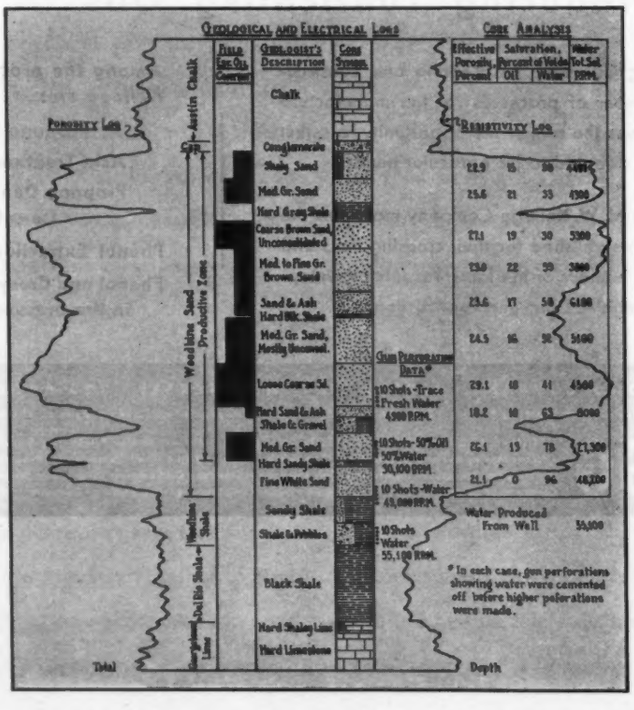
Area within East Texas oil field (acres)	130,000
Estimated reservoir pore space (bbls.)	8,500,000,000
Space filled with connate water (average 30 per cent) (bbls.)	2,550,000,000
Space available for gas and oil (average 70 per cent) (bbls.)	5,950,000,000
Space occupied by gas in solution (average 21 per cent) (bbls.)	1,249,500,000
Space occupied by oil-gas (average 55.3 per cent) (bbls.)	4,700,500,000
Net pore space filled with oil in lower reservoir section after water-flooding (per cent)	16.25
Ultimate recovery based upon above figures (bbls.)	3,936,663,750
Ultimate recovery based upon 50 per cent (bbls.)	2,350,000,000
Difference—probable loss in oil (bbls.)	1,586,663,750
Oil recovered up to June 1, 1936—total (bbls.)	898,631,000
Original formation pressure (pounds per square inch)	1,620
Formation pressure June 1, 1936 (pounds)	1,188
Drop in pressure during life of field (pounds)	432
Pressure drop per million barrels recovered (pounds)	2.07
Present rate of pressure drop per million barrels (pounds)	.52
Total number of wells June 1, 1926	20,665
Marginal wells, 20-bbl. allowable	13,015
Well density, major companies, one well to (acres)	7.24
Well density, independent companies, one well to (acres)	5.03
Average well density for field, one well to (acres)	6.25
22,632 acres have 6,850 wells or one well to (acres)	3.30
6,850 wells relation to 20,665 wells (per cent)	33.20
Well density prescribed by Rule 37 and proven efficient in recovery of oil through tests, one well to (acres)	10.00
June allowable factor based on hourly potential (per cent)	2.60

Everyone must admit that there is a limited amount of oil in the East Texas field and whether this be large or small it should be equitably divided among owners of property above the reservoir.

If tests and experiments have proven that there exists under any specific lease a certain volume of oil, and this properly belongs to the land owner and has been leased by him to the oil company to recover, it should follow that the recovery of this oil or its equivalent amount should constitute the fulfillment of the contract upon the part of the lessee.

It is the consensus of opinion of geologists and engineers fully conversant with conditions in the East Texas field that one well to each 10 acres will efficiently recover all of the legal oil under that property. This well spacing is strictly in accordance with Rule 37, concerning which there has been much controversy and to which hundreds of exceptions have been granted which have caused densely drilled areas being created resulting in zones of low pressure and more rapid water movement to these low-pressure areas.

It has been established to the satisfaction of the engineers familiar with the East Texas field that the oil within that reservoir is slowly moving as a body of fluid from west toward the east, and such oil as is being recovered by those with leases along the western edge of the field must be taken in a limited time or it will forever pass from under their property. Many west edge leases show the effect of eastward drainage and are near depletion.



On the other hand, many leases in the middle and eastern zones of this field have actually recovered by this time more oil than was originally in place under their boundaries, and still have an undiminished supply of oil in the formation beneath their property lines upon which they can continue to draw for some time to come.

It might be argued by those who consider only that oil which has been reduced to possession as belonging to the producer that if nature has created a condition such as now exists in East Texas whereby the eastern neighbors of the middle and western lease owners are placed in a position of having brought to their leases additional oil the only logical thing for them to do is to accept this oil and do their best to remove it from the formation as quickly as permitted under the present proration rules as apply to this field.

If such a line of reasoning is followed then the only thing to do is to drill just as many wells on the lease as possible, receive the allowable rating for each well and then proceed to take the oil at the rate permitted by the daily allowable ruling. It is very obvious that on a 100-acre tract with one well to each two acres 50 wells will drain the property, and if the marginal well allowable is 20 bbls. per well the recovery will be 1,000 bbls. per day. If the adjoining operator has abided by the well spacing rules as laid down by Rule 37 and has one well to each 10 acres or a total of 10 wells on his lease and each of these wells is permitted to produce 20 bbls. daily his recovery will be at only one-fifth the rate of his neighbor with the close spacing of wells.

This all seems very obvious and it is surprising that any oil company would contend that it was doing the right thing by limiting the number of wells on its property and refusing to follow the well spacing program established by greedy neighbors. The very fact that this answer seems so easy to arrive at and still the major companies refuse to follow this course of close spacing should cause the royalty and property owners to pause and give consideration to other facts known to the major companies, and available to the lessees, determining the reasons why close spacing in East Texas is not the best course to follow.

The East Texas field is a tank or reservoir of oil and it has been estimated by engineers that it contains approximately 8,500,000,000 bbls. of pore space. If the field had been operated under the old law of capture rules and every property owner had been allowed to take just as much oil from this common source as he was capable of securing

by any means at this command then close spacing of wells along lease lines and open flow conditions would be the best means of securing the desired results.

The courts of Texas recognize oil in place and the commission has attempted to lay down rules whereby distribution of the oil in East Texas would be equitable. They have done this by allowing each well to produce only a limited quantity of oil each day and the operators have then been divided into two classes. One group seeks to interpret the rules as meaning the drilling of as many wells upon their property as possible and the other group argue that if they have drilled a sufficient number of wells upon their property to recover an amount of oil equal to the volume originally in place within the property lines of the lease they have lived up to the letter and spirit of the Texas conservation laws.

This decision to limit the number of wells is based upon the well-established fact that if any area within the East Texas field withdraws oil from the reservoir at a rate greater than the average rate of withdrawal for the whole field, regions of low pressure will be created around those points of rapid withdrawal.

As the whole field is underlain by a body of water moving with irresistable force from west to east and always moving to points of lower pressure it must follow that if one region has created a point of low pressure within the reservoir through rapid withdrawal of the oil the water will tend to move up into the base of that particular area quickly. In its movement toward the region of lower pressure it will first drive oil from adjacent portions of the reservoir to the point of low pressure but later it will also cause water to rise to a higher level under this low pressure zone and flood it.

For complete drainage and true conservation of the natural resource within the East Texas field it has been recognized that the rate of withdrawal of oil must be limited to approximately 450,000 bbls. daily to coincide with the rate of water movement. Under such conditions the water table beneath the oil will raise as a level plane and practically all oil will be flushed from the reservoir rocks and the oil left behind, or waste, will be reduced to a minimum. The Texas Railroad Commission has recognized the rate of withdrawal by placing an allowable on this field of approximately 450,000 bbls. per day but this body has not attempted to lay down rules governing the method of securing this oil so that each property owner will receive only his share and no more or less.

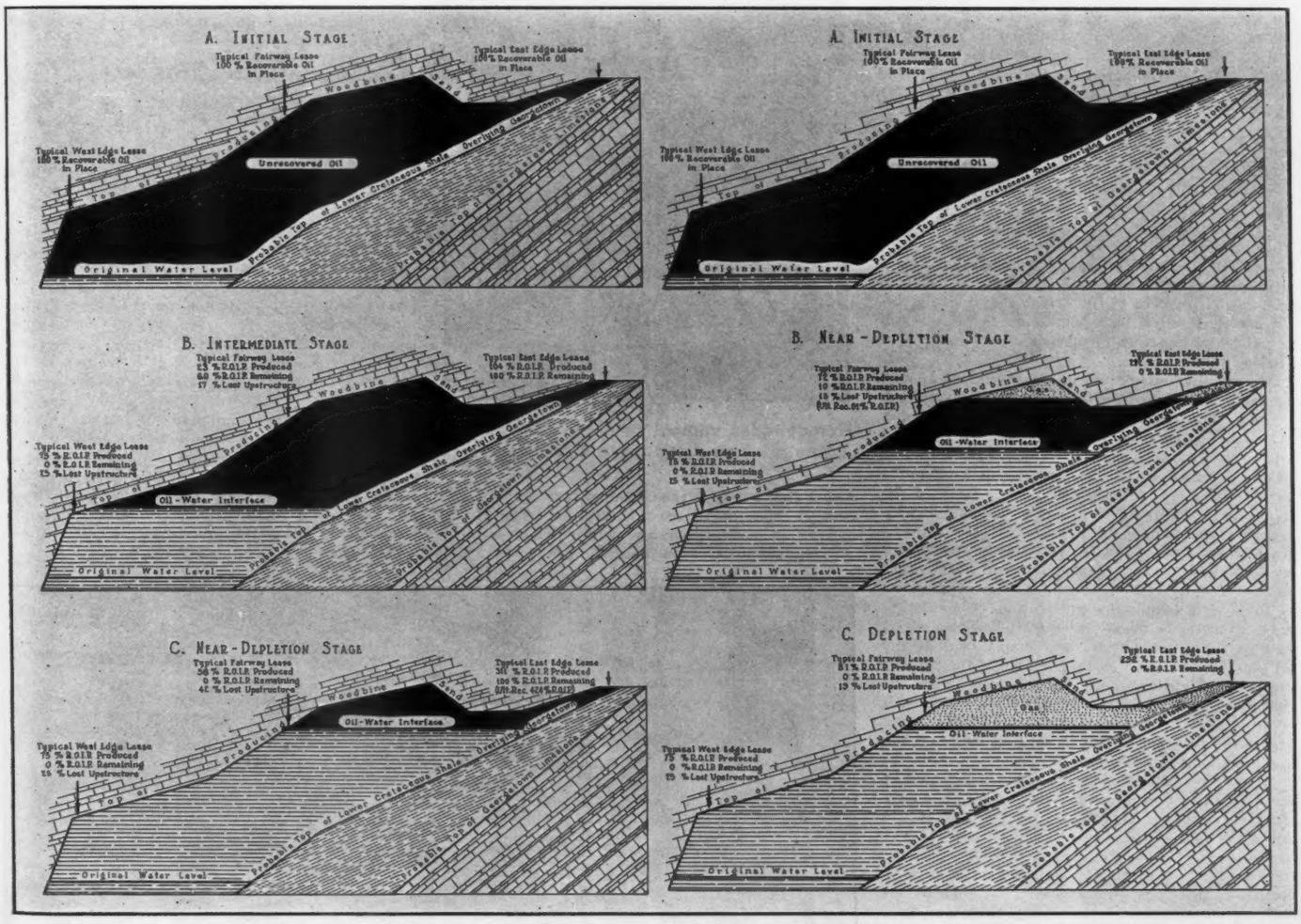
As a result of this lack of control of rate of production from the individual leases and through the close spacing of wells in many areas numerous zones of lower pressure have been created and will be created and to those areas the water will move more rapidly with the result that much of the recoverable oil will be trapped within water lenzes and rendered more difficult of future recovery.

It is axiomatic that no operator can secure more than his just share of the oil in the common reservoir without some other operator losing a like amount. It then follows that it is the duty of the Railroad Commission, in the interests of true conservation and elimination of unnecessary waste to take into consideration the amount of oil originally in place in this reservoir and divide same proportionately among surface land owners according to their holdings. This cannot be done so long as the daily allowable per well basis of proration is followed because there will always be a tendency on the part of some to consider it their right and privilege to take all the oil they can secure from the maximum number of wells drilled upon their property. It is in hopes of ultimately securing recognition of engineering facts that the major companies are now fighting these suits in court hoping to establish sufficient evidence to later cause the legislature and Railroad Commission to recognize these fundamental truths and in the future to issue only such proration orders as will be based upon true conservation and equitable distribution of the oil and gas from a common source among the various owners of property rights above the field.

Thus far this article has dealt with the general problem and it may be asked how the engineers and geologists for the major companies have arrived at their conclusions and why they are so insistent upon observing natural laws? It would be a simple matter for the major companies to compete with closely drilled offset leases and drill an equal number of wells, but if such a course were followed it can lead to only one conclusion—the field in time would be so closely drilled that the allowable per well would be reduced to the vanishing point.

Recognizing the trend toward close drilling created by the method of issuing allowables, the Stanolind Oil & Gas Co. and others, according to the evidence submitted in their lawsuits, commenced a series of investigations into the physical conditions of the East Texas field several years ago and have intensified this investigation as more evidence has been accumulated.

When the first wells were drilled it was agreed that shallow penetration of the producing formation was preferable because in other Woodbine sand fields where the full section had been penetrated water had quickly coned around the wells and caused loss of oil and added cost of production. The cuttings from the section of the producing sand actually penetrated in East Texas were examined in laboratories and bottom hole samples



East-west section, Gladewater area, East Texas field

Water table advance with no gas cap **Water table advance with gas cap**

of gas and oil secured, as well as bottom hole pressures determined.

These simple data were correlated and together with geological evidence used to study this great area underlain by a prolific oil sand. An engineering committee was formed and the participating companies exchanged data and discussed problems and in this manner a true knowledge of the conditions within this reservoir were established. Based upon such facts decisions have been made by executives and these facts have been used as guides for the legal departments in study of their problems.

Hundreds of Cores Studied

Based upon the analyses of cores from hundreds of wells, the pore space in the reservoir rocks of the East Texas field could contain 8,500,000,000 bbls. of fluid. This is not all oil for it has been determined by laboratory examinations of cores that an average of at least 30 per cent of the pore space is filled with water and the gas in solution in the oil occupies about 21 per cent of the remaining pore space. Each barrel of oil in the East Texas field contains approximately 375 cubic feet of gas in solution and this gas will not be liberated from solution until the pressure on the oil is reduced to below about 800 pounds per square inch. But when the pressure is reduced below 800 pounds this gas will escape and measuring the oil with the gas in solution and then measuring it after the gas has been liberated it is found that the gas occupied 21 per cent of the space in the pores in the reservoir.

To determine the condition of the reservoir rocks below the bottom of the producing wells Stanolind Oil & Gas Co., according to evidence submitted in court, and later other companies, have drilled holes completely through the Woodbine sand section and have penetrated into the Del Rio shales and Georgetown limestone beneath. All of the cores and cuttings secured from these bore holes have been carefully analyzed in the laboratories and it has been found that this section is not one solid body of sand but is made up of intermediate layers of sand, shale, red bed material and bentonite. It has also been definitely established that the water table has moved upward in the reservoir and to the east and if orderly withdrawal is practiced this upward and eastward movement will ultimately flush this sand free of nearly all oil.

The cores secured from the now flooded portion of the Woodbine sand shows that only 9 per cent of the pore space is now filled with oil. Based upon the condition of water occupying 30 per cent and gas 21 per cent of the original pore space, this means that only 16.25 per cent of the oil still remains within the formation after water has flooded it.

If this water movement is continued it will mean the ultimate recovery of approximate 2,350,000,000 bbls. of oil from this field, if allowance is made for unequal results caused by irregular withdrawal as now practiced under well allowable basis of proration. This means that approximately 1,600,000,000 bbls. of oil will be unaccounted for if present conditions continue as compared with recovery that might be expected if the sand is washed as free of oil as cores from the lower sections now water flooded indicate. In other words, if only 16.25 per cent of the original oil is to be left behind by application of good production methods nearly 4,000,000,000 bbls. of oil will be recovered, but if only 50 per cent of the oil is to be recovered as is indicated if the present unequal withdrawals on the per well basis are continued, then only 2,350,000,000 bbls. of oil will be brought to the surface. This is one of the strong arguments in favor of proper well spacing and the application of good engineering.

It may be asked why there will be a change in recovery rate from now on if cores show that only 16.25 per cent of the original oil remains in the lower portion of the formation now passed over by the water flood? The answer is found through the examination of the formation at the various horizontal positions. Near the base of this Woodbine section the sand is unusually clean and free from trashy material so that the water flood has been very effective. The 898,631,000 bbls. of oil produced up to June 1, have caused a uniform water advance through this comparatively clean lower sand.

However, in closely spaced areas, particularly where the sand bedding is broken by shales, the tongueing in of water has already made its appearance and if the present unequal allowables are continued, more low pressure areas will be formed and to those areas the water will tend to migrate more rapidly, cutting off oil which will be hard, if not impossible to recover later.

Thus far man's mistakes have been compensated for by natural conditions, but it is not to be reasoned that nature will continue indefinitely to overlook bad production practices and if they are not corrected the purpose of the Texas Railroad Commission in attempting conservation of this natural resource will be defeated.

It is to establish additional facts in court records that the major companies now strive. They consider it of more value ultimately to have the legislature and railroad commission of Texas recognize natural conditions within any pool as the basis for proration orders than to follow along the old lines of expedience and do those things for the time being that have been proven wrong in final accomplished results.

It is recognized that there are different conditions governing the actions of various companies and individuals and the larger companies have come to recognize those inequalities and will be found ready to make concessions to those less fortunate individuals or companies, because in the end such concessions will be less costly than to permit poor engineering practice to continue to the point where everyone in the field suffers.

This may seem at first glance to be a Utopian ideal and difficult to credit to "big business," but a closer study will reveal that the underlying principles are based upon many years of intensive study of reservoir conditions and correlation of past experiences which have definitely shown that man cannot beat nature and it is far better to recognize and utilize natural forces than to ignore them. No two pools have exactly the same characteristics but every pool can be studied and facts reduced to common knowledge and experience and rules made for production practices that will give the best ultimate results for all interested parties.

Direct Drive Used for Central Pumping Power at Wewoka

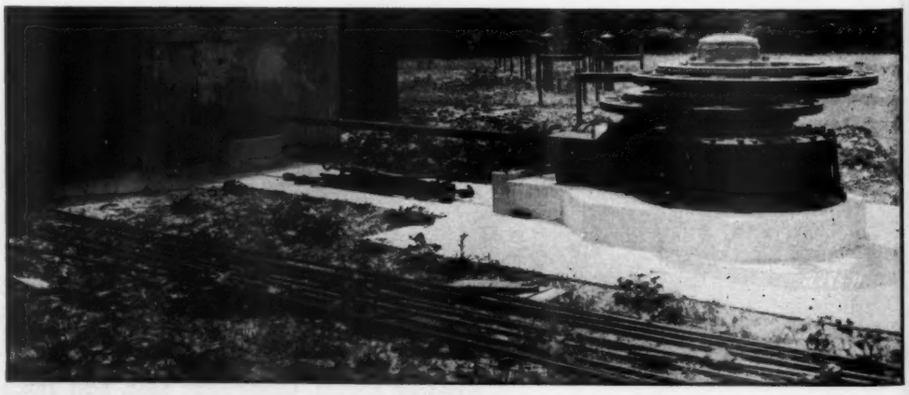
A direct shaft drive is being used on a new central power on the Manahan Oil Co.'s Dixon B lease in the Olympic pool, 10 miles northeast of Wewoka, Okla. A similar installation was completed this week on the Manahan Oil Co.'s Dolton lease 1 mile north of this location. The prime movers in both cases are four-cylinder vertical gas engines with twin ignition, air filters, and rated at 56 horsepower at 600 r.p.m. The 50 horsepower geared powers are connected directly to the engines by 14 feet by 2 15/16 inch shafts and two self aligning couplings. Two weather-proof roller bearing pillow blocks support the shaft; the one near the geared power is of the expansion type to take care of the expansion of the shaft, while the one near the engine house is the fixed type. A twin disc clutch is used on the engine with a pillow block on the extension shaft.

Four-cylinder vertical twin ignition gas engine used on direct drive central power

The equipment pictured here will be used to pump 9 or 10 wells ranging in depth from 1,750 to 1,850 feet, each equipped with 2-inch or 2½-inch tubing. Seven-eighths inch pull rods will be used for all of the wells having 2½-inch tubing and for the wells with 2-inch tubing which require long rod lines. For the other wells with 2-inch tubing, three-quarter inch pull rods will be used. The longest rod line on this system will be approximately 1,100 feet long.

The central power equipment used on the Dolton lease differs from the equipment pictured here, in that only one eccentric is being used. When the installation is complete 12 wells of the same depth as those on the Dixon B lease will be operated. At present only 8 wells are connected to the power.

In addition the Manahan Oil Co. is installing indirect drive powers on their Oliphant B lease to pump 10 or 11 wells; on their Oliphant C lease to pump 7 wells; and on their Oliphant E lease to pump 6 wells. On their Dixon C lease they will use a pumping unit with back side crank attachments to pump four wells in all. These leases are all in the same pool.



Double eccentric geared power installed with direct shaft drive from engine

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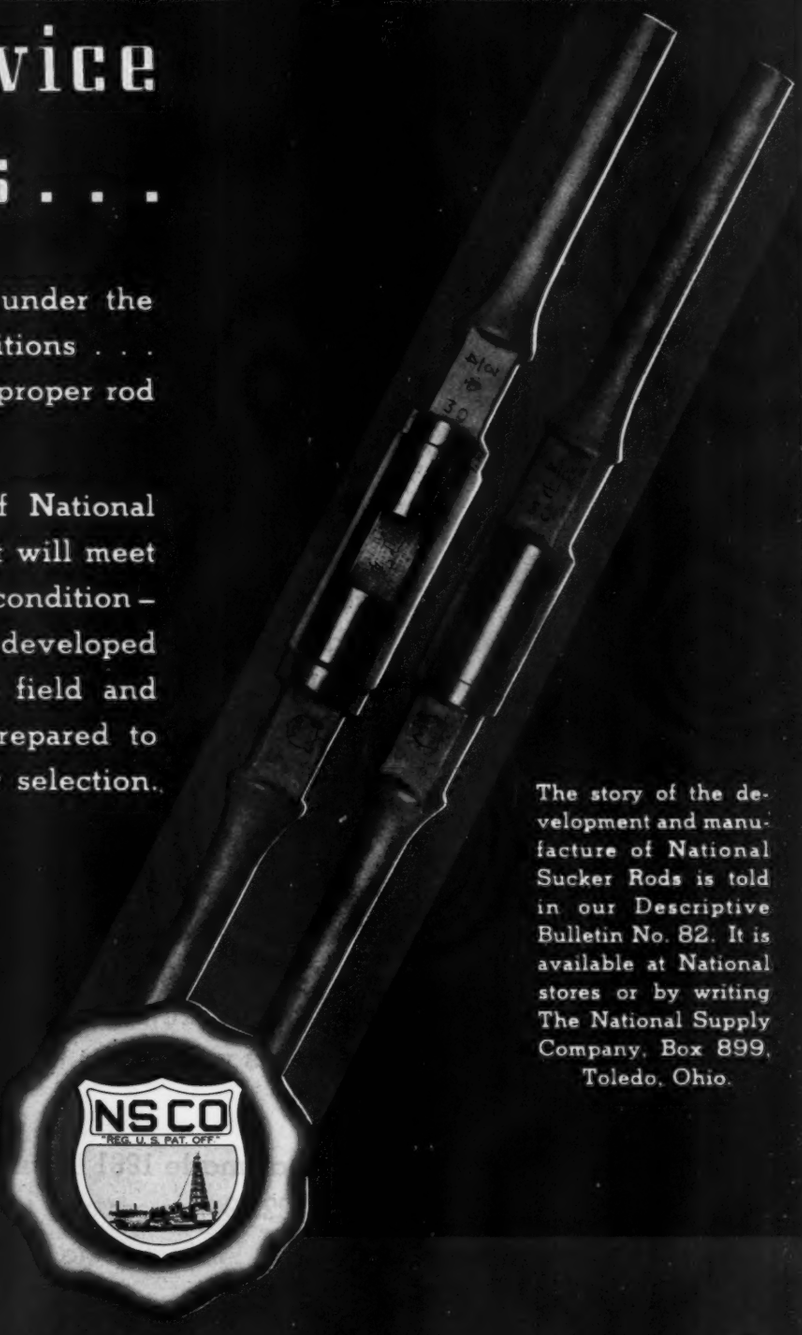

The story of the development and manufacture of National Sucker Rods is told in our Descriptive Bulletin No. 82. It is available at National stores or by writing The National Supply Company, Box 899, Toledo, Ohio.

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Fuel Volatility as Viewed by the Automotive Engineer

By GILBERT WAY
Chrysler Corp.

The principal cause of much misunderstanding and controversial argument between the motor manufacturing and gasoline producing industries has been the divergence in point of view, and the indifference to the other fellows problems, bred by a lack of understanding. In order to promote effective cooperation to our mutual benefit, it is necessary that we, as a member of the automotive group, become conversant with your economic and practical problems, and also that you, as gasoline manufacturers, be informed on questions pertinent to fuel utilization with which the automotive man is confronted. To this end we invite you to come with us into our field and see how things look from our side of the fence.

A brief explanation of the workings of an automotive department may not be amiss towards a better understanding as to how we go about our problems. Among its chief functions is the consideration of service complaints from the field. In this connection, the various problems must be diagnosed, a solution worked out and, if possible, the cause removed from subsequent models. It is evident that in the highly competitive automotive business, any company which did not follow this procedure, and ignored the short comings of its product as pointed out by service reports, would soon lose ground in the industry.

In the face of the rising trend in fuel volatility as indicated in the various statistical papers which have been presented to this group, it becomes of increasing importance to reckon with the limitations imposed by conventional methods of fuel handling in an automobile, including everything from fuel tank to combustion chamber.

In regards to vapor lock, the bulk of complaints occur during unseasonably warm days, generally in the spring of the year when residual winter stocks of gasolines are still being sold. This occurrence, to a greater or smaller extent, has become an annual affair and is, I assure you, a problem that receives a great deal of attention.

Our experience has been that vapor lock trouble is seldom recognized as such by the average motorist and that the car is generally blamed for having something else wrong with it. We found one situation in which a roadside garage, located in a district where conditions were such that vapor lock was prevalent, did a booming business in replacing coils at $5.00 a piece on cars that came in and reported erratic running. By the time the coil had been changed, sufficient cooling had taken place to allow the traveler to continue on his way, only to later discover that the same trouble would again take place. As a result of many such occurrences it has been the aim and desire of the automotive engineer to make his product as free from vapor lock as possible, and, as a matter of fact, complete elimination of this problem would be most welcome. I believe that it is generally recognized at present, that definite limitations in the way of surrounding temperatures make it practically impossible to provide a very considerable margin of safety with the present conventional fuel systems, in which the fuel pump is mounted on the engine block.

The question of dependability is one of the reasons for not having seriously considered many proposed fuel systems. The utility of the present day motor car is largely dependent upon its reliability of operation. As the functioning of the fuel pump is vital to the operation of a car, the passing of a specified minimum life test is essential. To date there has not been a substitute devised that will satisfactorily fulfill all the requirements. Other systems which might solve the problem as far as vapor lock is concerned, introduce undesirable fire hazards, especially in case of accident.

In the endeavor to improve fuel handling conditions it must be admitted that the engineer is none too happy with the present style trend which apparently dictates narrow streamlined hoods with all lines denoting speed as being one of its chief beauty features. If this trend continues, it may result in cars of such appearance that one may be in danger of getting a ticket for speeding while parked. It should be remembered, however, that the sale of automobiles is greatly stimulated by eye appeal, in fact, even the relatively unappreciative engineer or oil technologist feels the urge of acquisition when exposed to a display of new models. Thus, while we damn the art department in one breath for bringing on more troubles, we have to hand it to them in the next for bringing home the bacon, which after all is what enables us to even worry about volatility or any other problem.

Coming back to the engineer's viewpoint on volatility, we believe that there are several other practical and serious limitations to the use of highly volatile motor fuels of high vapor pressure in the conventional automobile, even though designed to take full advantage of the superior qualities pointed out by Doctor Brown.

Specifically, we have first the increased vapor losses and accompanying greater fire hazard that would result from the use of these fuels when used in warm weather. An undesirable feature in this connection is the passing out of the lighter fractions through the gasoline tank and carburetor bowl vents. This action results in a reduction of the highest antiknock portion of the gasoline and also in a total loss of a part of the fuel purchased by the motorist. We cannot escape the fact that the present automobile engine is primarily a heat engine, depending upon the development of heat for its power and, in our present knowledge of the art, must reject and radiate a considerable amount of heat in the process. Twelve pound gasolines in warm seasons would be subject not only to the vapor loss due to high atmospheric temperatures, but would be exposed to the inherently higher temperatures existing in and around a motor vehicle.

Another undesirable limitation is the ice formation in the carburetor which was experienced in Doctor Brown's research work, making it necessary to heat the fuel to 110° F. by means of an exhaust heater. The idle stalling condition, which I mentioned here last year, has since been found to be

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ice formation in the idling discharge port of the carburetor. With the more volatile fuels, we have also observed the building up of ice around the throttle blade until complete closure of the throttled passage resulted.

With the public interest revived in gasoline mileage, probably initiated by the economic conditions of the past few years, followed by attention as a sales feature, a definite trend has been established towards increasing fuel economy. Among the changes which may be effected as a result of this trend are lower engine speeds and decreased engine and chassis friction. Increased engine compression ratios will be employed only when and if higher octane gasolines are generally available or sufficient widespread volatility increases accomplish the same result.

The use of very light fuels brings in the question of economy in part throttle or ordinary road operation. Doctor Brown has stated that under normal operation, mileage is substantially proportional to fuel density. Additional loss in economy will also result if manifold heat is removed. Doctor Brown's charts on part throttle fuel mileage show approximately 10 per cent lower values for the whole family of curves run with the cold manifold as compared to the heated manifold.

No volatility discussion would be complete without consideration of the starting and warm-up angle. Not so many years ago cold weather starting presented quite a serious problem in severe winter. One of the difficulties encountered was keeping the engine running after the first fire occurred, as the choke had to be released just the right amount at the exact moment, in other words, the engineer had no control over the starting mixtures and much depended upon the skill developed by the individual driver. Some people became fairly proficient in this art, however, a great many were in trouble every time the temperature dropped, and to them this procedure constituted quite a hazard to winter driving. The engineer then developed means within the carburetor to accurately control fuel mixtures during starting and immediately thereafter. With this development, starting troubles, as far as carburetor and fuels were concerned, were very radically reduced.

Another phase of starting about which very little has been said, is difficulty in starting when the engine is very hot. This is the result of an over-rich mixture in the manifold caused by the immediate vaporization of any fuel that gets into the intake system. For example, upon depressing the accelerator, a pump shot is dumped into the manifold, is vaporized and adds to the richness of whatever mixture is already present. When the driver does not obtain the instant start expected of a hot engine, he generally pushes down the accelerator several times, thus pumping additional fuel into the manifold, and when still no results are forthcoming, he begins to work on the choke button. All these operations only aggravate the existing over-rich condition, but how is the average driver to know that the manifold must be cleared out by cranking with a set open throttle and to avoid pumping or choking? As can easily be seen, high volatility would, of course, increase the temperature range in which this over-richness would occur.

A series of starting and warm-up tests have just been completed in our cold room which is maintained at a temperature of —10° F. A number of fuels differing markedly in volatility characteristics were used to determine the effect on starting under standard full choke procedure. By making many starts on each fuel, it was possible to determine just what volatility range could be handled by a given calibration.

The range in volatility which could be satisfactorily accommodated was comparatively wide, being approximately 30 degrees at the 10 per cent evaporated point, 50 degrees at 30 per cent and 70 degrees at 50 per cent evaporated. Naturally, the best results were obtained on fuels having volatility ranges somewhat similar to the fuel used for original calibration; however, those within the range mentioned gave fairly consistent results. Except in the case of fully automatic chokes which also give control of the warm-up mixtures, performance during warm-up was improved as the volatility of the gasoline increased.

For the satisfactory performance of the present day engine on fuels of average volatility, a hot spot is essential. A distinct advantage of thermostatically controlled manifold heat is its response to atmospheric temperatures. Thus, temperature variations which would be impossible to follow by seasonal fuel adjustment alone, tend to be automatically corrected for by the thermostatic control, which does not know or care whether it's 80 degrees in January or freezing in July. In connection with manifold heat it should be pointed out that the minimum amount which will give satisfactorily low speed performance on average volatility gasolines is provided for by the engineer.

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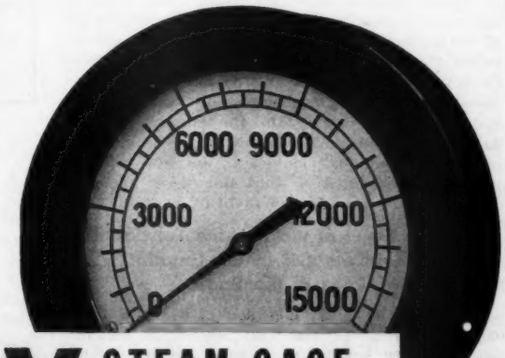

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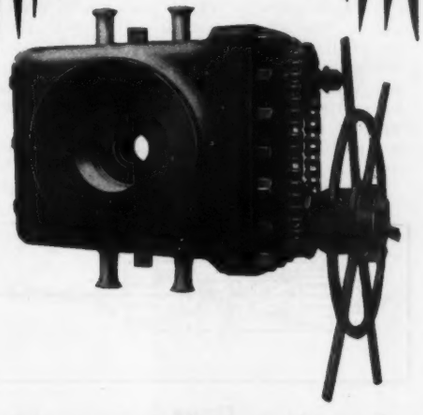

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Production of Oil by Gas Drive

By GERALD L. HASSLER

Assistant Professor of Petroleum and Natural Gas, School of Mineral Industries, Pennsylvania State College*

The fundamental law of flow in porous media, known as Darcy's law, does not have any direct relation to the flow of fluids under actual field conditions, because this rule of constant relation between pressure gradient and rate of flow applies only to homogeneous fluids. All oil fields contain mixtures of oil and gas, and some contain water, oil and gas, but in these cases there is at present no background of laboratory study which will permit a calculation of rate of flow in terms of applied pressure and the properties of the fluids and the rock. This paper will describe experiments which extend the range of Darcy's law so as to include the flow of gas-oil mixtures, but does not treat the presence of water.

A. Types of Flow of Gas-Oil Mixtures

If the oil saturation of sandstone is very high, the gas bubbles present are too small to connect with one another, and the relation between the pressure gradient and the rate of flow is determined principally by the viscous resistance of the liquid. The gas bubbles will influence the flow by blocking a hole here and there because their resistance to deformation will prevent their passage through the hole. The situation may be simplified by regarding the trapped gas bubbles as a solid part of the porous medium, the liquid flowing around the fixed bubbles just as if the bubbles were sand grains of spherical shape.

If the oil saturation is low, the gas will form a single continuous set of passages through the medium, the oil being stuck to the walls by reason of its tendency to wet the sand. At low saturations this set of gas passages will differ from the corresponding passages of the dry sandstone principally in size, and the gas would be expected to flow through the oil-sandstone complex as if the oil were a solid part of the sandstone.

It is possible to obtain a more vivid picture

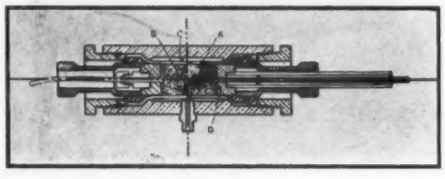

Figure 2

of these changes that take place when oil is removed from a sand—from gas bubbles to interconnected gas passages, and from communicating webs of oil in the crevices of the sand to isolated ringlets and drops of oil in nearly dry sand—by consulting certain papers in the field of soil physics[1], where the problem of absorption of water by soils has been thoroughly studied.

Figure 1 shows some of the arrangements of liquid among spheres which are packed together at random as discussed at length by Smith[1]. The transition from the dry state to the saturated state may be observed by inspecting the distribution of liquid around the spherical grains after they have been saturated with oil and then drained. As we descend the column from the dry grains downward, the first oil found is in the form of single liquid rings wrapped around the points of contact of grain pairs, with only one contact point to a single mass of liquid. This is called the "pendular" stage by Versluys[2]. The gas present is of course still interconnected so that the arrangement is almost as permeable to gas as the dry sand. The small masses of oil do not interconnect, except perhaps through very thin films extending over the wetted sand, so that the oil cannot readily move about. The curvature of the oil surfaces decreases as we move farther down, until there is a stage where the rings have enlarged so much that they touch one another

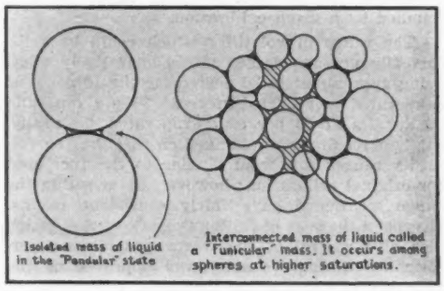
Isolated mass of liquid in the "Pendular" state
Interconnected mass of liquid called a "Funicular" mass. It occurs among spheres at higher saturations.

Fig. 1—Arrangement of liquid in partially saturated sand made up of packed spheres

and become combined into complicated masses. Versluy calls this the "funicular" stage. It is characterized by the fact that there is a direct path for oil flow among the grains from one ring to another, and more than one point of sand grain contact is imbedded in the same liquid. Next there is a stage of complete saturation except for the presence of bubbles of gas which have been trapped in the interstices of the grains. This might be called the "dispersed gas" stage, and from the standpoint of flow it will be observed that the medium is impermeable to gas. The bubbles can move only by being dragged along with the oil.

It might be well to classify the stages of saturation in the following way: (1) Dry and pendular stages, characterized by the fact that gas moves about easily while the liquid does not. (2) A double web stage (above 35 per cent), in which both the gas and the liquid form separately interconnected webs so that either gas or oil can move about. (3) Dispersed gas and saturated stages (above 85 per cent), in which the oil can move about easily while the gas does not.

The second of these is perhaps not valid in the case of packed spheres, because in this range of saturation the oil tends to collect in the so-called "funicular" masses which are more stable in spheres than a continuous web of oil and these separated oil masses may not connect with one another. However, in the case of consolidated sandstone under gas drive it is believed that the "funicular" masses of oil are substantially interconnected so that the above grouping of phenomena will fit the facts of experiment.

B. The Effect of the Surface Tension Is to Hold the Oil in the Smaller Holes of the Sand

It should be noted that a curved surface will exert a pressure on the fluid inside the surface, like a rubber balloon or a soap bubble. When, as in the case of the oil in partly saturated sandstone, the surfaces are very highly curved, these pressures may be very high, even as great as 100 pounds per square inch. The oil surfaces in sandstone in general are concave so that they tend to place a suction on the oil rather than a pressure. A careful consideration of the matter will result in the conclusion that the curvature throughout the sandstone must be the same, and will increase as the saturation is reduced. Because of the greater suction of a capillary meniscus in a small hole one would expect the oil to tend to collect in the smaller pores of the rock, so that as oil is cleared out of it by gas drive the larger holes would be cleared first. The smaller holes will then be cleared out in order of decreasing size as the oil is dragged out by the viscous action of the driving gas. It will be shown below that large forces will be required to disturb this equilibrium distribution of oil, which is characterized by an equality of curvature of the oil-gas surface everywhere in the sand.

C. The Least Viscous Movable Fluid Determines the Distribution of Pressure and Hence the Pattern of Flow

From the standpoint of one who wishes to calculate the flow in a partly saturated porous medium which is caused by the injection of liquid or gas the fundamental question is: For a given distribution of oil and gas what determines the distribution of pressure in the medium? This is because the direction and magnitude of fluid movement will be determined by the pressure gradients.

The data presented in this paper will imply that in every condition other than the dispersed gas and saturated stage the movement of the oil may be neglected in calculating the flow of the

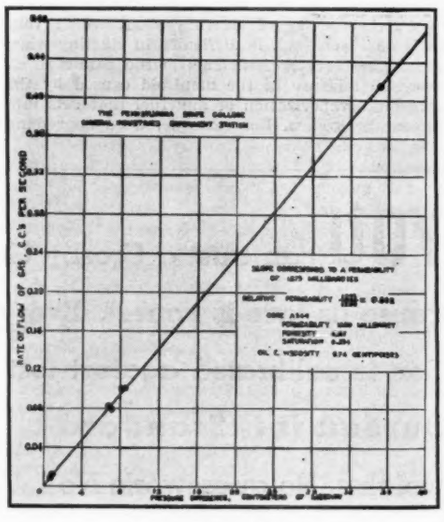

Figure 3

gas. Because of the lower viscosity of the gas, and because the oil tends to wet and stick to the sand, the forces applied to the sand by any displacement will be distributed by movement of the gas and not of the oil. The problem of flow of gas-oil mixtures will therefore be solved most easily by first calculating the flow of the gas. The rate of movement of the oil may then be determined as a secondary effect of the flow of the gas through the use of the idea of a relative rate of oil flow to gas flow. The gas factor, commonly expressed in cubic feet of gas per barrel of oil, is a concept which is very similar.

For the case of dispersed gas listed above there is little data. During the course of the experiments to be described it was observed that something in the nature of a threshold pressure,

*Presented before sixth Oil and Gas Conference of the School of Mineral Industries, Pennsylvania State College.

[1]W. O. Smith, Physics, 4, p. 425, December, 1933, p. 134, May, 1933. Physics, 3, p. 139, September, 1932. Smith, Foote and Busang, Physics, 1, p. 18, July, 1931.

[2]J. Versluys, Inst. Mitt. f. Bodenk, 7, 117-140 (1917).

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below which no flow takes place (a "Jamin" effect) could be noticed for Bradford cores whose saturation is above 85 per cent. Using a core 1 inch in length and having permeability 10 millidarcies it was observed that an air pressure of

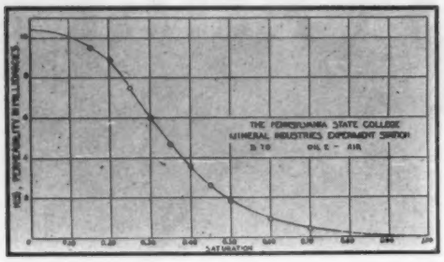

Figure 4

14 centimeters of mercury would be supported for several minutes without break through while pressures above this figure would break through the saturated core immediately causing a flow of about .01 cc. of air per minute per square centimeter of sand. The question of whether this static pressure could be supported without flow indefinitely cannot yet be answered. After break through, and perhaps down as far as 80 per cent saturation, a short wait would suffice to heal the core so that it would again support a few millimeters of mercury without appreciable flow (less than 1 cubic millimeter of air per second).

Since these high saturations of oil are almost never encountered in gas drive practice, the static pressure phenomenon commonly called "Jamin effect" can be largely disregarded unless water is present to make up a high liquid saturation. In such cases the "static" or "bubble" pressures, which do not depend on rate of flow, are undoubtedly very important.

Experiments on Air Drive of Dead Oil in Bradford Sandstones

In order to fill in the above mentioned gaps in our knowledge of the flow of oil-gas mixtures, a laboratory study has been made of the relation between pressure gradient, saturation, and rate of flow of air through a selected group of Bradford sandstones. Some of this work has been previously reported,[3] but for the sake of completeness the main points will be repeated here.

[3]Hassler, Rice and Leeman, A.I.M.E., Eng. Bull., vol. 118.

A. Materials Used, Apparatus and Procedure

The test specimens had the following physical characteristics:

TABLE 1.—PHYSICAL PROPERTIES OF BRADFORD SANDSTONE SPECIMENS

Symbols used in plotting data—	Lab. No.	Permeability (millidarcies)	Porosity	Diameter centimeters	Length centimeters
Upright cross....	A 786	8.3	0.095	1.96	2.4
Square.....	B 78	10.4	0.149	1.96	2.57
Circle	B 68	14.5	0.153	1.96	2.41
Triangle ..	A 544	15.9	0.157	1.96	2.34
Parenthesis	B 66	20.7	0.164	1.96	2.41
Crossed circle ...	B 28	31.4	0.170	1.96	2.31

They were saturated at the beginning of the experiments with oils of the following physical properties:

TABLE 2.—PHYSICAL PROPERTIES OF OILS USED IN AIR DRIVE EXPERIMENTS

		Density	Viscosity centipoises	Surface tension, dynes
Mixtures of paraffin oil and kerosene	A	.880	66.0	32.1
	B	.861	20.8	31.0
	C	.846	8.66	30.5
	D	.831	4.38	29.6
A close cut of Bradford crude	E	.861	9.74	31.0

This filling with oil was accomplished by evac-

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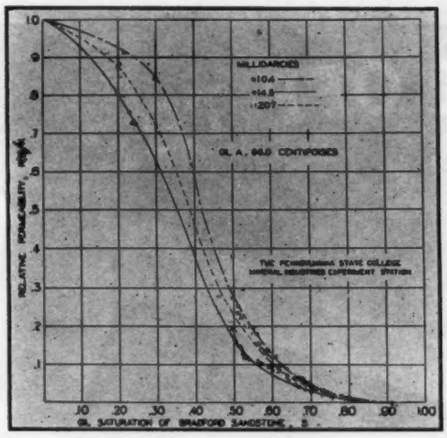
uating the cores, covering them with oil while they were still evacuated, and permitting them to stand under atmospheric pressure for several hours. The cores were then placed in the core holder (Figure 2) and subjected to the flow of air at various pressures above atmospheric pressure at the inlet (top) end. The rate of flow of the air and the saturation of oil in the core (by weight difference) were observed from time to time until the greater part of the oil was driven from the core.

The core holder (see Figure 2) is the heart of this apparatus, and upon its quick action the success of this weight difference method of following the saturation depends. In it the core is surrounded by a thin walled rubber tubing (A) of the kind used for Gooch crucibles. This tube is pressed against the cylindrical boundary of the test core (B) by applying air pressure to the chamber (C) considerably greater than the greatest pressure of the driving air within the core. A bourdon tube gauge is provided to measure this sealing pressure, and throughout these experiments it was kept in the neighborhood of 50 pounds per square inch greater than the greatest inside pressure. By connecting the space (C) outside to an aspirator pump, sufficient vacuum is obtained to suck the rubber tube (A) away from the core. Since it is mounted vertically, the core will drop out into the hand of the operator as soon as the vacuum valve is turned. The operation of removing, weighing the core, and replacing it can be done readily in five minutes. The loss in weight during this operation averaged, for oil C, about .0003 gram.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OIL SATURATION OF BRADFORD SANDSTONE, PER CENT

Figure 5

The brass end plugs (D) generally fit the fractured ends of the sandstone sample well enough to permit a sealing pressure of 100 pounds per square inch, but to avoid straining the tube a yielding gasket ring may be placed between the sample and the end plugs. In these experiments thin pads of surgical absorbent cotton were used, and the outlet cotton was frequently replaced.

B. The Validity of Darcy's Law for Oil Wetted Sandstone

It was found that an oil bearing sandstone is similar to a dry sandstone in that the rate of flow of gas through it is proportional to pressure. A series of measurements on the relation of rate of flow of the gas to pressure gradient at any chosen saturation will produce curves such as Figure 3, obtained with core A544 and oil E.

The ordinate of Figure 3 is the rate of flow of air through the core, and within the limits of accuracy the rate of flow is proportional to the pressure difference applied at the two ends of the core. These data are typical. As a consequence of such data it is permissable to think of the permeability to gas of an oily core as a measureable physical constant and it will be de-

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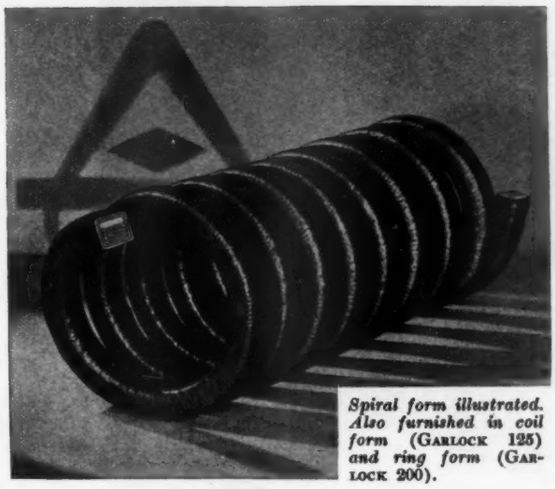

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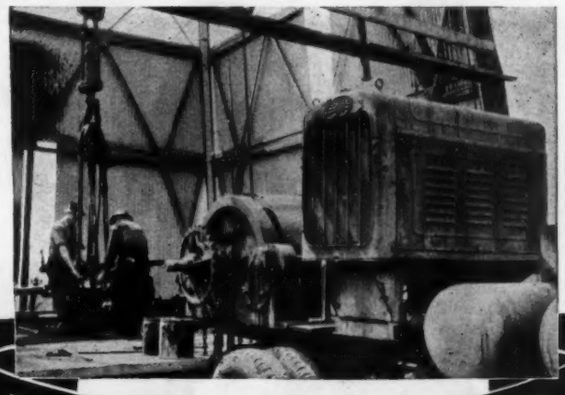

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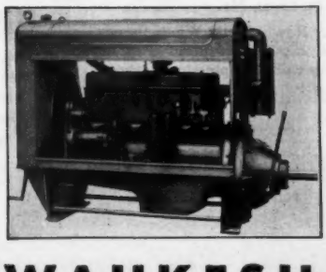

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fined in exactly the same way as the ordinary permeability constant.

C. Relative Permeability, $\frac{K(s)}{K}$

The permeability of a Bradford sandstone at

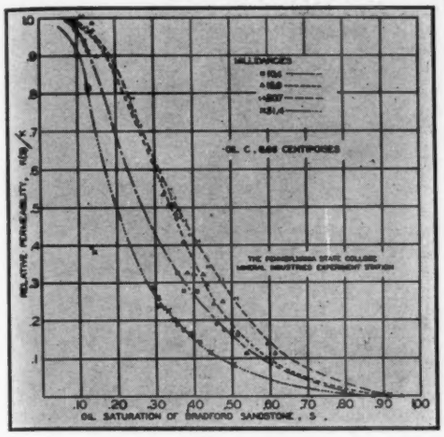


Figure 6

various saturations is shown in Figure 4. This S shaped curve is representative of the results obtained with all combinations of five separate Bradford sandstones and oils of five different viscosities. In order to make the comparison of this curve for various sandstones easier, the ratio of the oil wet permeability, K(s) to the true permeability K, is defined as the "relative permeability." The relative permeability for all Bradford sandstones may be approximately described by the empirically determined formula:

$$\text{Relative permeability, } \frac{K(s)}{K} = e^{-7.75s^{2.85}} \qquad (1)$$

Thus the effective permeability of a Bradford sandstone having any saturation can be roughly calculated by substituting into the right hand side of formula (1) the given saturation, and multiplying the figure obtained by the true or "dry" permeability.

The data upon which this generalization is based is presented in Figures 5, 6, and 7 in which relative permeability is plotted against saturation. These data were obtained with the various oils and cores at one driving pressure, namely, 40 pounds. As a further check on the validity of Darcy's law for an oil wet core, as set forth for one saturation in Figure 3 above, the data of Figure 8 are offered.

Here are two sets of points obtained by different observers, whose particular procedure was widely different. The first set, plotted with triangles, was taken at a pressure difference of 40 pounds, and the second set, plotted with circled deltas, was taken at a pressure difference of 6.71 pounds. These sets of data, which are believed to be of somewhat higher quality than others here presented, check one another as to the general shape and position of the curve.

The physical significance of a relation between saturation and relative permeability may be visualized by consulting Figure 9. In the cross section drawings the saturation is proportional to the area that is cross hatched as oil. The rate of shear of the fluids will depend on the respective viscosity as shown by the velocity curve. The rate of flow of the gas may be estimated approximately by disregarding the flow movement of the surface of oil. On this assumption for the case of a cylindrical tube, Poiseuilles' Law leads to a relation between relative permeability and the saturation of the cylindrical capillary of the parabolic form:

$$\frac{K(s)}{K} = (1-s)^2 \qquad (2)$$

This curve is plotted on Figure 10.

In the case of the sandstone it is clear that the section bounded by the oil and sand boundaries will not increase its gas carrying capacity appreciably during the later stages of oil removal, for the parts which hold oil at low saturations are not capable of carrying much gas. As a particular example, a hole .002 inch in diameter will contain as much oil as four holes of .001 inch diameter but will have a gas carrying equivalent of 16 such holes.

As has been mentioned above, only the smaller holes can retain oil at low saturations, and hence during the last stages of the removal of oil from sandstone only smaller holes will be cleared for the flow of gas. If the oil is produced as pictured

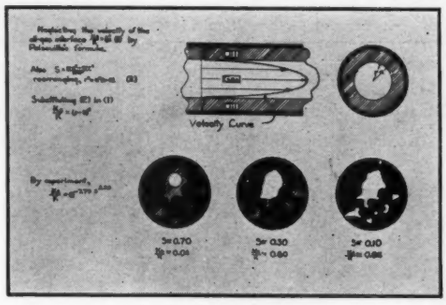


Figure 9

in the successive stages, a, b, c of Figure 8, then the low saturation end of the relative permeability curve would be expected to be horizontal as in the experimental curves of Figures 4, 5, 6 and 7. Therefore, the movement of the oil may best be thought of as taking place in a manner similar to the viscous drag flow of the cylindrical capillary, but with the proviso that the interconnected cylindrical capillaries are cleared successively in order of decreasing size, and not simultaneously.

D. The Rigidity of the Oil Distribution in Sandstone

One other important distinction between the idealized circular capillary flow and the real flow is that in the first case the radius of curvature of the oil-gas interface increases as the saturation is lowered, while in a real sandstone channel this radius of curvature decreases. The oil lies in the crevices and may have a radius of curvature of the order of one-tenth the size of the capillary as a whole (or perhaps .0001 inch). These curved surfaces, because of their surface tension, will tend to suck the oil away from the crevices, and the difference in pressure between the oil and the gas may be calculated from the equation:

$$p = \frac{2\gamma}{r}$$

Where γ = surface tension
r = radius of curvature of the oil surface

Substituting the measured value of the surface tension (31 dynes) and assuming r to be one-half micron we have a tension, p = 1,240,000 dynes per square centimeter, or about 1¼ atmospheres. Consider a sphere of oil of such a small radius exposed to a pressure gradient 1 atmosphere per centimeter of driving gas (the highest value reached in the experiments). The pressure

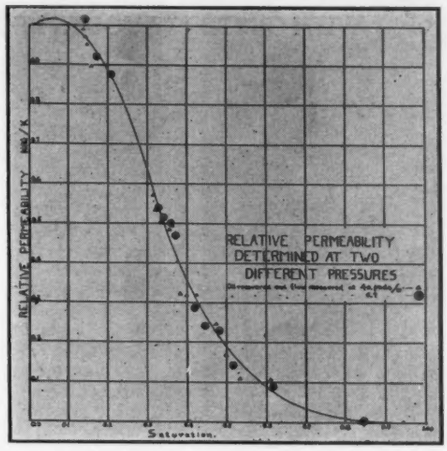


Fig. 8—Showing volatility of Darcy's Law over a wide range of saturations

difference applied to the two sides of this sphere would be about .0001 of an atmosphere, while the pressure inside the sphere is more than 1 atmosphere. In other words, such a droplet of oil in the sand would be distorted by a violent gas flow just about as much as a tightly inflated tennis ball held out in a gentle breeze.

The evidence thus leads to the conclusion that oil can be distributed in equilibrium within the grains of a sandstone in only one way, and the forces which hold the oil into its restricted arrangement are strong enough to resist the action of any ordinary pressure gradients. The data shown above to establish the validity of Darcy's law for oil wet sandstones will establish the point. If it be assumed that the pressure gradient applied to the oil in the sandstone will distort the various oil-gas boundaries, this distortion should immediately result in a change in the permeability with pressure gradient. In general, flow of gases through small orifices is very sensitive to changes in the orifice boundaries. It will be difficult to reconcile the date of Figure 3, with an assumption that the shape of the oil gas boundaries is changed by the flow of the gas.

Hence, it is necessary to reject at least for saturations below about .85 and under the conditions of our experiment the widely held belief that the oil moves through the sand in the form of bubble walls separated by gas slugs, these bubbles being continually blown up and reformed by the action of the flowing gas. Such an action is not consistent with the rigidity of highly curved liquid surfaces, and could not account for the linear relation between rate of flow and pressure

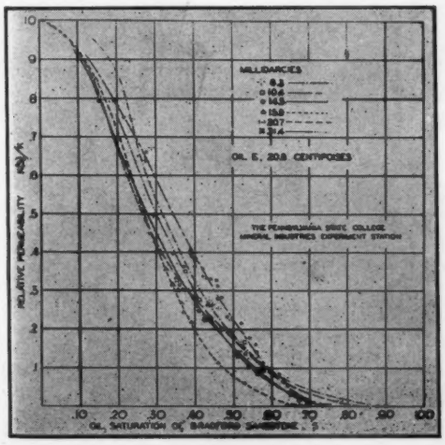


Figure 7

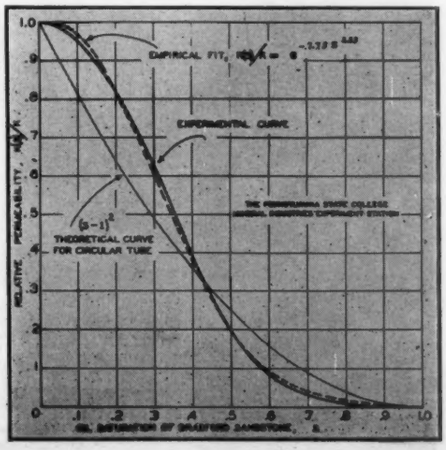
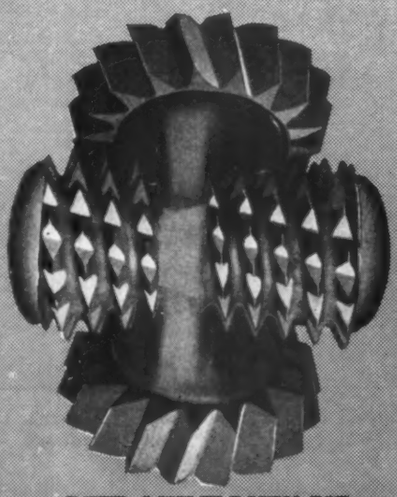


Figure 10

THERE IS A

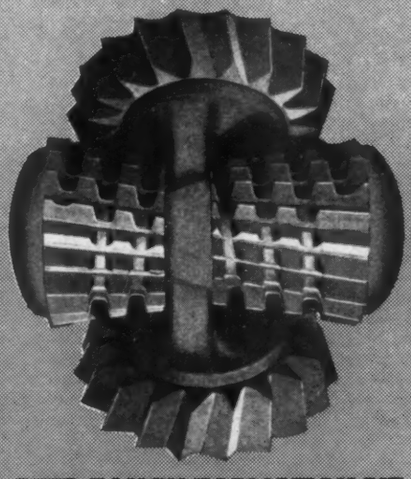
REED ROCK BIT

WITH CUTTER LAYOUTS BEST DESIGNED TO DRILL KNOWN FORMATIONS MOST EFFICIENTLY



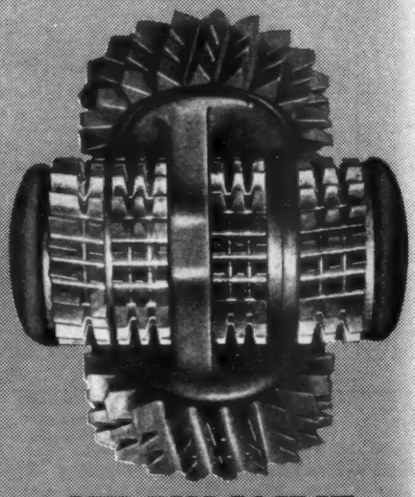
REED MULTI-DUTY BIT

A general purpose bit especially adapted to drilling broken formations, such as: alternate hard and soft layers or strata: semi-hard shales; limestones; chalks, etc.



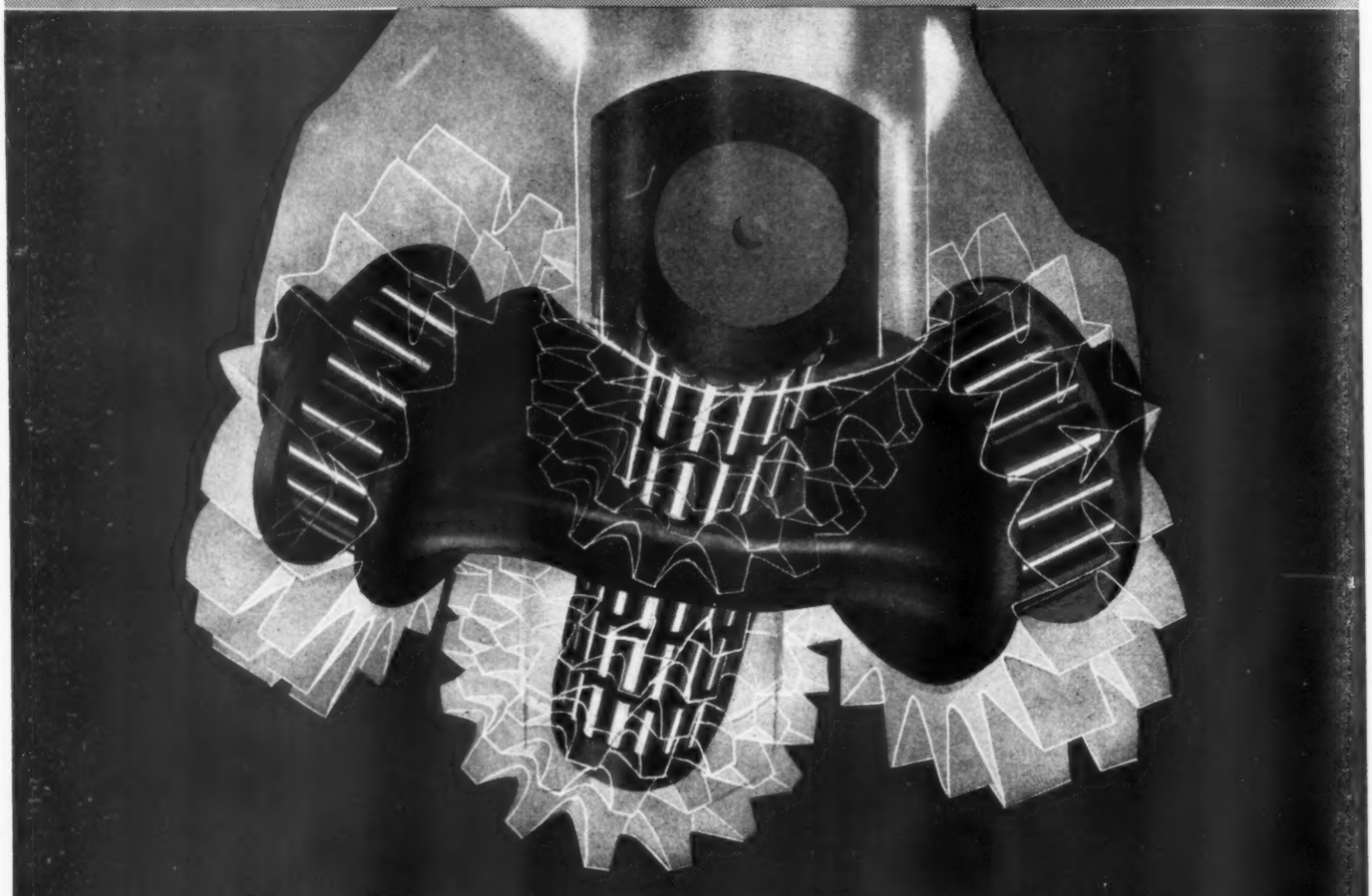
REED TOUGH FORMATION BIT

For hard and tough formations, such as: hard limestones; sand rock; hard shales; and harder formations than those on which the Multi-Duty Bit is generally used, but not in hard formations such as granite, basalt, etc.



REED HARD ROCK BIT

For cutting hard, well cemented sandstones; very hard limestones; and when equipped with "D" Type Teeth, for granite, basalt, etc.



The sturdy bridge, of drop forged heat treated alloy steel, carries the two side cutters and supports the cross pin, which carries the cross cutters. The assembly has four direct supports and is welded into the bit head at all four supports.

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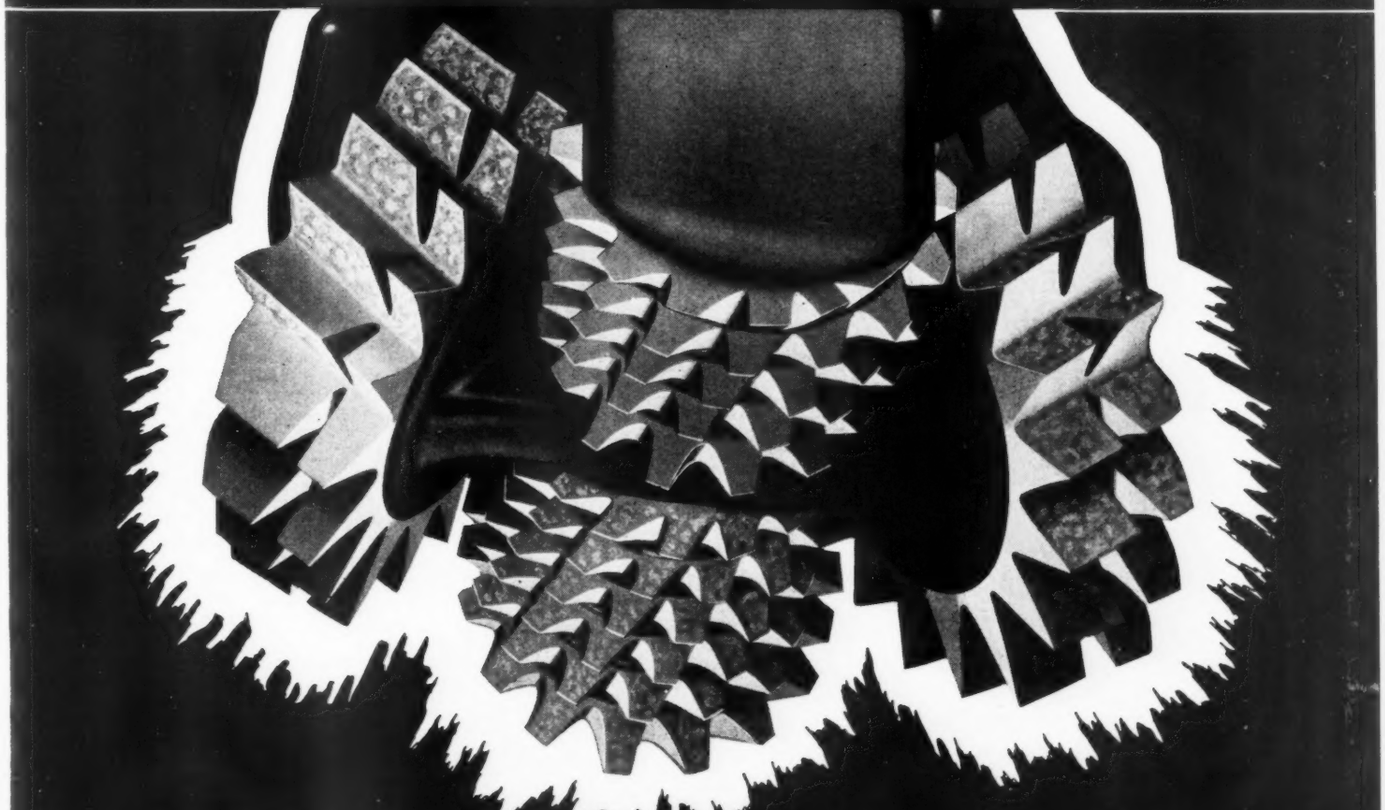

MID-CONTINENT AND GULF COAST DISTRIBUTORS FOR MARTIN-DECKER PRODUCTS

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gradient unless the special assumptions be made that the number, distribution and manner of formation of these bubbles is independent of the pressure gradient which causes it. This special assumption can be ruled out by the fact that such a constant distribution of bubbles implies a threshold pressure below which no flow will take place. As was stated above, there is evidence that a static, non-viscous resistance of this kind at saturations below 85 per cent does not exist in Bradford sandstones.

It will be better to picture for the present a type of flow in which the oil is moved tangentially along the oil-gas surface by the shearing action of viscous gas in such a way that the microscopic oil surfaces are not distorted, but are only gradually increased in curvature as the oil is sucked away.

E. The Oil-Gas Ratio, Determined in the Form ds/dv.

The rate of flow of the oil depends on the rate of flow of the gas and the saturation of the sand. The general character of this relation for the case of air drive of dead oil in Bradford sandstones has been determined in terms of a quantity ds/dv. Here dv is the volume of air (in cubic centimeters per square centimeter) whose passage through the core caused the loss of saturation ds. This quantity is not directly related to the reciprocal of the gas-oil ratio, ordinarily expressed in cubic feet per barrel of oil, but involves the porosity of the sand as well as the quantity of oil produced. From the standpoint of field calculations the most useful quantity would be the ratio of the rate of flow of oil to the rate of flow of gas at any point. This quantity would be independent of the size of the sample or the flow pattern, and seems to be very difficult to measure in the laboratory. But this ratio may be similar to the ratio ds/dv, which obviously depends on the length of the sample.

It was found from a study of combinations of five Bradford sandstones of various permeability with five oils of various viscosity that the quantity ds/dv can be expressed roughly as:

$$ds/dv = [\,5.7\ \sqrt{1/\eta} - 1.06\,]\ 10^{-7} e^{19.8s} \qquad (2)$$

where η is the viscosity of the oil in centipoises. While there was considerable variation from core to core, there was no systematic dependence upon permeability.

The data are represented on Figures 11 and 12. The points of Figure 11 were determined by calculating dv/dt from the permeability curves, and ds/dt from curves of saturation against the time, t. Then ds/dv is obtained by dividing ds/dt at several values of the saturation. The plot of ds/dv on a logarithmic ordinate against saturation s on a cartesian abscissa results in curves that lie in separate groups according to the viscosity of the oil used in the experiment. Those of A, B, and D are best interpreted as straight lines of aproximately the same slope; i.e., straight lines represent average performance.

The curves of Figure 12 are derived from those of Figure 11 by calculating an average curve for each viscosity separately. They show the effect of viscosity of the oil on the efficiency of production. This effect may be summarized by the statement that the oil production per cubic centimeter of gas

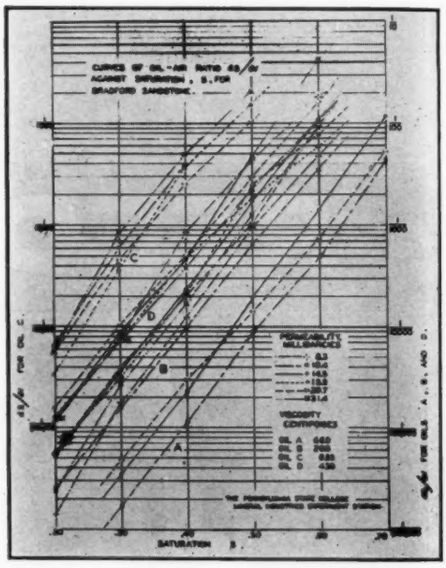


Figure 11

varies as the square root of the fluidity of the oil, as shown in Equation (3).

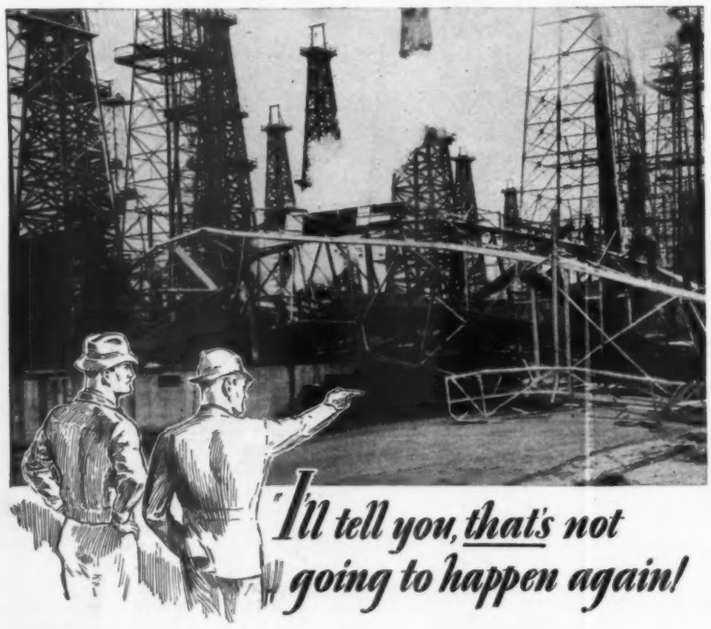
For purposes of field comparison, a value of one one-hundredth for ds/dv can be converted into a gas factor of 3,760 cubic feet of air per barrel of oil.

F. The Effect of Pressure Gradient on Oil-Gas Ratio in Uniform Cores

The effect of viscosity, saturation and permeability upon the quantity ds/dv are alike, from the standpoint of a petroleum production engineer, in that neither viscosity, saturation nor permeability are quantities which can be controlled. The following study of the effect of pressure gradient is more pertinent, because in air injection properties that quantity can be adjusted at will.

Tests have been completed on cores A544, B76 and B28, at applied pressure differences of 40, 20, 10 and 6.7 pounds per square inch. The ds/dv values are plotted against pressure on Figure 13.

In comparing the results obtained with several pressure gradients due allowance must be made for the fact that the actual rate of flow within the core is less than measured by the factor P/Pm, where P is the pressure at which the flow measurements were made and Pm is the mean pressure in the core. Upon making these corrections, the curves of Figure 13 are obtained. These data may be interpreted provisionally by the statement that at saturation 40 per cent approximately, ds/dv is proportional to the square of the applied pressure



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gradient. The variation appears to be less at higher saturations, but we have not yet had time to digest our data in that region.

It seems clear that if the curves can be extrapolated down into field pressure gradients, an opportunity is offered to both speed production and reduce costs by applying higher pressures in the field. Further study of the problem of by-passing may point the way to do this.

III. The Relation of the New Information to Field Practice

A. By Passing

In field practice the use of high injection pressures is limited by the so-called by-passing or channelling phenomenon. It is found that wells which have been producing normally, and with a reasonable gas-oil ratio will sometimes greatly increase their gas flow without a proportionate increase in oil production. The reason usually given is that the gas has blown through a permeable streak or has eroded a channel—something in the nature of a hole in the rock. The data on relative permeability submitted above may possibly offer a more reasonable explanation for this by-passing. Although actual channels big enough to pass cotton seed between wells several hundred feet apart have been found, it is probable that this sort of thing is uncommon in Pennsylvania. The ordinary "by-pass" can be controlled by shutting down the wells concerned for a few days, or simply by reducing the injection pressure. Cases are on record where by-passing was controlled by substituting natural gas for air as the driving medium.

B. Explanation of the Effect of Injection Pressure on By-passing

In ordinary field practice it is generally found that an increase in pressure will result in a higher gas factor, and not a lower one as obtained in our experiments. This apparent disagreement between field experience and laboratory data can probably be resolved by consideration of all the factors. In our laboratory test the pressure is applied in such a way that the mass velocity of the gas must be the same all over the test specimen. In the field the gas is injected at one point and may choose a variety of flow patterns which it is not now possible to predict, but which do not have the same mass velocity of driving gas everywhere as in the case of our laboratory test. The laboratory specimens are deliberately chosen for uniform permeability and are uniformly saturated, while in the actual well any distribution of saturation, permeability and lensing of the layers may be found.

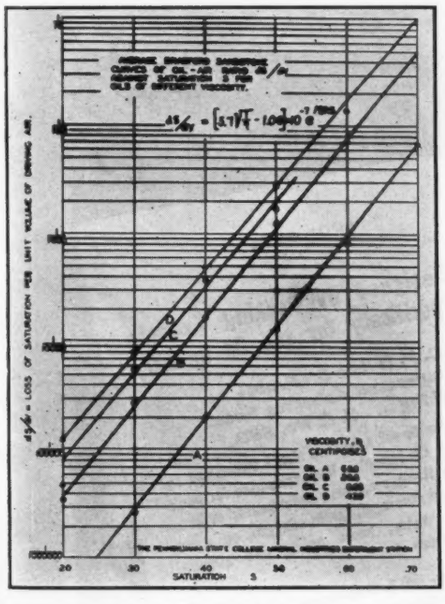


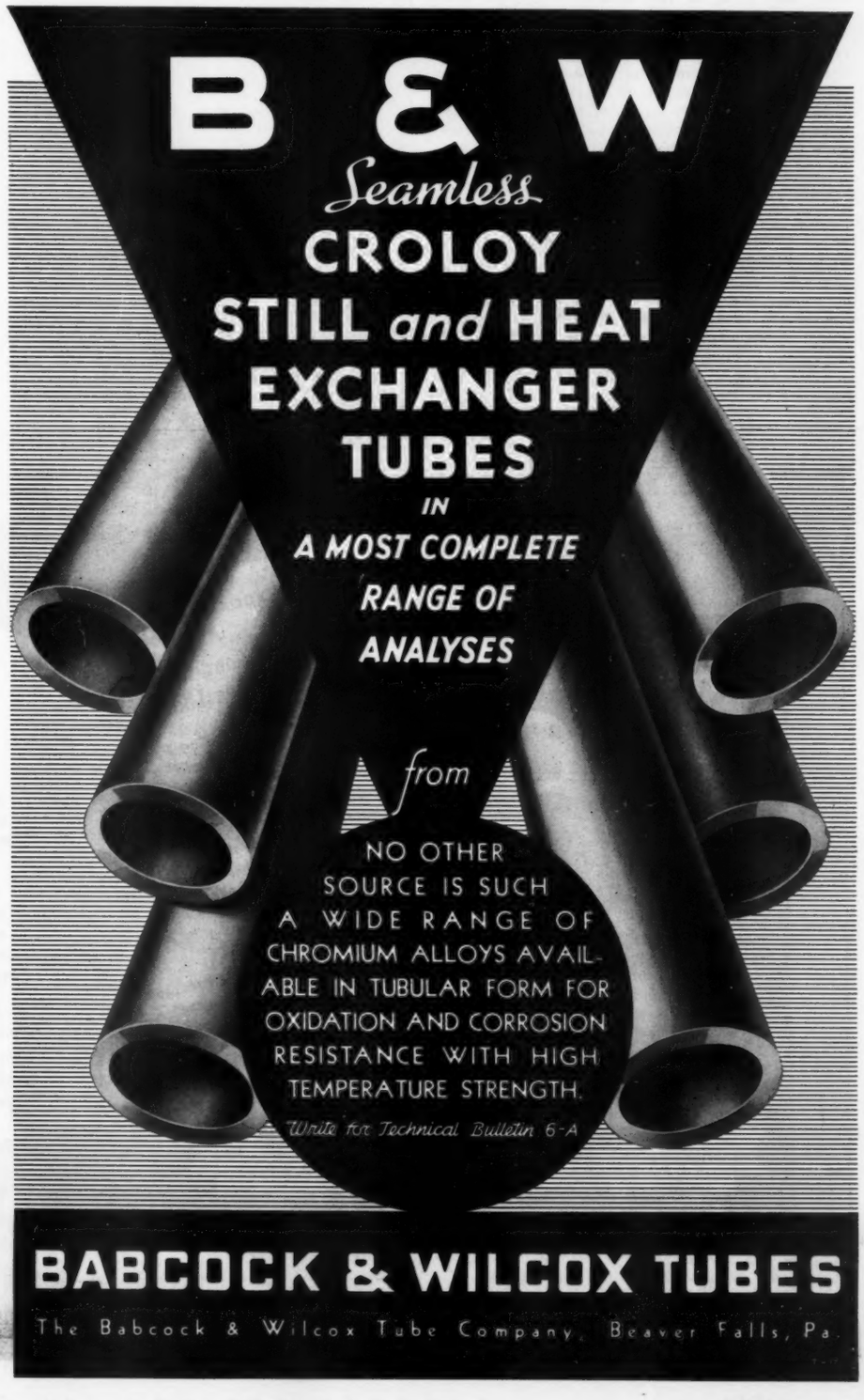
Figure 12

However, it will be instructive to consider the effect of air drive upon two uniform sand layers of equal thickness, one of permeability 10.4 millidarcies, as in B78, and another of permeability 31.4 millidarcies, such as B28. Since the data apply only to specimens an inch in length which contain no water or dissolved gas, the conclusions reached will have to be used with care, but this miniature oil production system has a similarity to field results which is suggestive. Table No. 3 shows how the volume of air transmitted, the volume of oil produced, and the saturation of the separate layers will compare at various times, if the drive begins at complete saturation.

These data show that in such a simple production system the more permeable layer gives up its oil sooner, but rapidly reaches a condition wherein the amount of gas it consumes per unit of oil produced is much greater than for the less permeable

TABLE 3—VOLUME OF AIR TRANSMITTED

	Saturations		Effective air flow		Ratio of air flow	Oil production		Ratio of oil production
	A786	B28	A786	B28	O B28			O B28
Time, seconds:	□	O	□	O	□ A786	□.A786	O,B28	□.A786
600	.72	.60	.24	2.88	12.0	.00173	.00845	4.90
6,000	.52	.39	1.38	13.5	9.80	.000262	.000256	.98
	(.455	.455)	(2.32	8.8)	(3.78)			
60,000	.35	.21	4.39	25.6	5.84	.0000351	.0000128	.364
120,000	.30	.18	5.25	26.8	5.10	.0000152	.000085	.56
∞ ?	0	0	8.3	31.4	3.78	?		?



core. Thus after the first 10 minutes, core A786, marked by the square, takes 12 times as much gas and produces 4.9 times as much oil. After 100 minutes it takes 9.8 times as much gas but produces only .98 times as much oil. After a long period of time the more permeable sand layer may have such a high gas factor that it is actually a waste of money to pump air through it, while the less permeable layer is still a profitable producer if it could be separated from the dried out and worthless permeable sand.

This laboratory model of an oil field would show the increase in air consumption per unit of oil produced which is generally encountered. But it will not show a highly important characteristic of an oil field, namely, the tendency for the oil-gas ratio to increase after a period of shutdown or with a lower pressure. How is it possible to reconcile the laboratory result which shows the oil-gas ratio increasing as the square of the pressure gradient with field experience?

In Table 3 it is shown that through the action of air drive the two cores result in different saturations at any time, the more permeable core being always the less saturated. Now under actual field conditions these sands would be in contact with one another so that there would be a tendency for the oil in the less permeable, more saturated layer to spread into the more permeable, less saturated layer as a result of capillary or "wick" forces. Consider for example, what would happen if the two cores were shut off at 100 minutes (see Table 3). Since these two sands have equal porosity and are of equal cross section area, when they come to capillary equilibrium they may both have a saturation which is the average of 52 and 39, or 45.5. (This, of course, is a guess which needs experimental check). If the drive were then resumed, it may be calculated by consulting Figures 11 and 12 that the oil gas ratio for the two would be better by a factor of 1.7. It can be shown that if the air drive be stopped at any time during production, so as to permit the two layers to come to capillary equilibrium, the gas factor will be much improved. This

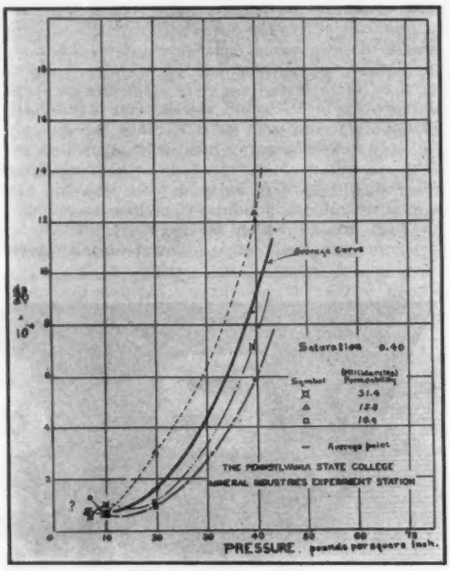


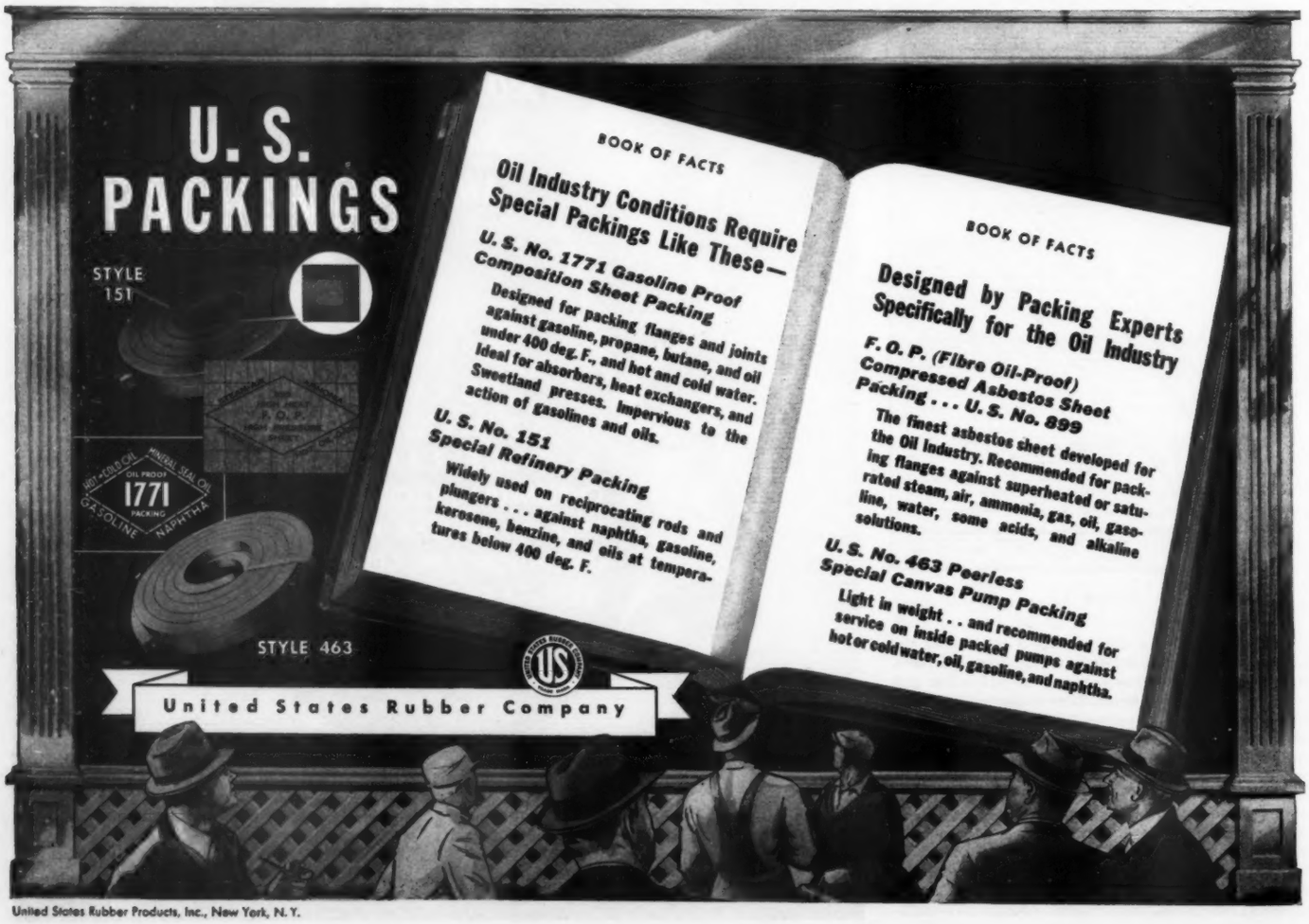
Figure 13

is perhaps the explanation for the improvement which is observed after shutdown in practice.

There is practically no laboratory evidence available which would permit a calculation of the rate with which capillary equilibrium is approached more rapidly if the more permeable and less permeable sections are thin and uniformly interspersed so that the vertical distance to be traversed by the oil is small and the saturation gradients will be high. It is probable that the capillary migration of the oil takes place continuously during the drive, the sand being more nearly in capillary equilibrium (more nearly uniform saturation from layer to layer of sandstone) when the rate of drive is slower, and this causes the improvement in gas factor which is observed when the pressure used in air drive is lower. Some of the oil in less permeable layers is thus moved to the producing wells by first migrating vertically (by capillary action) into more permeable, less saturated layers, and thence by air drive into the producing well. This process will explain the difference between the effect of high pressure gradients on uniform core samples in the laboratory and in field practice.

If this picture is correct, it will be important in the near future to investigate thoroughly the factors that control this capillary migration of oil in sandstone. The data above on the effect of viscosity on rate of production, for example, suggest that the improved results obtained by the use of natural gas in repressured injection properties cannot be accounted for by the reduction in viscosity which the gas would cause. However, it is known that capillary equilibrium is more rapid for oils of low viscosity. Hence it is to be expected that in addition to the relatively small improvement in ds/dv caused by a decrease of viscosity in these experiments, there will be in field production an additional factor of improvement which arises from the greater ease with which oil moves vertically into the layers of more rapid gas drive.

A quantitative discussion of this phase of the problem must await a more complete knowledge of the causes of those movements of oil which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depend on differences in saturation rather than differences in pressure.

C. The Problem of Balancing the Drive in Air Injection Properties

In most fields it is probable that the setting of packers is controlled by certain special situations, such for example as the pressure of "shoe string" sands of high permeability or a lensed gas sand. These peculiarities, which sometimes permit gas to appear in wells several locations away from the injection well without causing any change in the wells between, will always have to be diagnosed and treated by the use of geological ingenuity and field experience. However, it will be a matter of utmost importance for the production engineer to have a firm understanding of the production process under what might be called "ideal" conditions; that is, permeability and saturation distributions which do not change sharply in the horizontal direction, a minimum of lensing and unconformity of the beds, and clean wells. Under such conditions a reasonable balance of the horizontal flow may be obtained by spacing the injection wells so as to have the same resistance to flow to every related producing well. This, of course, means that the well spacing must be greater in the direction in which the flow resistance is least, as determined by sand thickness contours and by horizontal asymmetry of permeability which must be found out by observing previous units in the property. If this horizontal balance is not obtained, it is clear that the gas will soon clean out the line of least resistance and the resulting low saturations there will lead to an undesirable increase in gas flow as implied by the data on relative permeability and ds/dv of this paper. This condition could not be easily controlled by a shutdown or by reducing the injection pressure according to the analysis of this article, because the distance between the dry parts and the saturated parts will be of the order of the well spacing. Thus the gradient of saturation will be too small to bring about a significant rate of movement of the oil across the field so that no appreciable adjustment of saturation can take place.

On the other hand, if an abnormally high gas factor is the result of vertical differences in the resistance to flow of various layers of sand, this paper suggests that if the layers are not completely isolated by impermeable beds the condition can be corrected partially by a shutdown or lowering of the pressure. The possibility exists of vertical short distance capillary movements of the oil from less permeable, more saturated beds into more permeable and drier beds so as to bring about a more uniform saturation and the data of this paper suggests that this new condition will result in an improvement in the gas factor as described.

No proof that capillary forces are capable of accomplishing this is available as yet. But the above data show that the effect of increased pressure on a uniform core is to increase the ratio of oil to gas, while it is known from field experience that increased pressure generally decreases the ratio of oil to gas. This seems to indicate that by some such mechanism the saturation of the field is made more uniform by a decrease or cessation of pressure.

Another possible mechanism for making the saturation of a field more uniform, and hence to improve the gas factor, is to soak the field with an oil soluble gas at high back pressure, and then release the back pressure and continue the drive with a high pressure gradient but a low average pressure. The frothing which results from this treatment should move the oil out of well saturated, impermeable regions into permeable sands where it can be readily driven toward the well. This action would be especially valuable in fields where gravity holds the oil out of a dry streak at the top of a thick layer. To sum up the findings of this discussion the conclusion that the oil-gas ratio may be enormously increased by a higher gradient of pressure is not necessarily inconsistent with field experience. There is reason to believe that the advantages of high pressure gradients in injection properties can be gained with better understanding of the means by which the saturation of the field may be kept uniform.

Conclusion

A number of factors which control the distribution and rate of motion of oil in a sandstone are described. Data are presented which show the influence of the following factors on the behavior of Bradford sandstone.

1. It is shown that the presence of oil in sandstone does not imperil the truth of Darcy's Law if the saturation is low enough for the existence of open gas passages.

2. The permeability of oil saturated sandstones is shown to vary with saturation according to the approximate empirical equation:

$$\frac{K(s)}{K} = e^{-7.75\ s^{2.25}}$$

where K(s) is the permeability at saturation s, K is the "dry" or true permeability of the sandstone. The "relative permeability" K(s)/K is roughly independent of the true permeability.

3. A quantity ds/dv, the oil-gas ratio divided by the porosity, is introduced, and it is shown that for short cores of uniform permeability this increases as the square root of the viscosity.

4. The quantity ds/dv is shown empirically to be an exponential function of the saturation s of the following type:

$$ds/dt = [5.7\sqrt{1/\eta} - 1.06] \times 10^{7}\, e^{19.8s}$$ where η = viscosity.

No systematic variation of ds/dv with permeability was observed.

5. The quantity ds/dv increases about as the square of the pressure gradient applied to the core.

6. A discussion of the relation of these findings to field practice is offered, which shows how the advantages of high average pressure gradients might be obtained by careful balance and by cycled back pressure.

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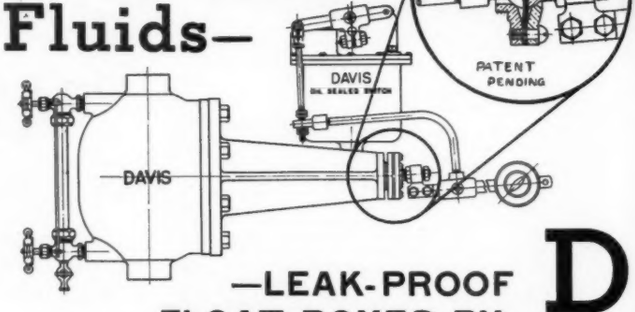

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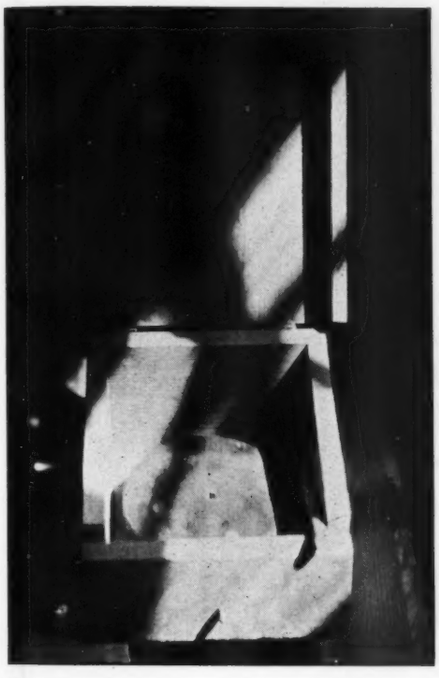
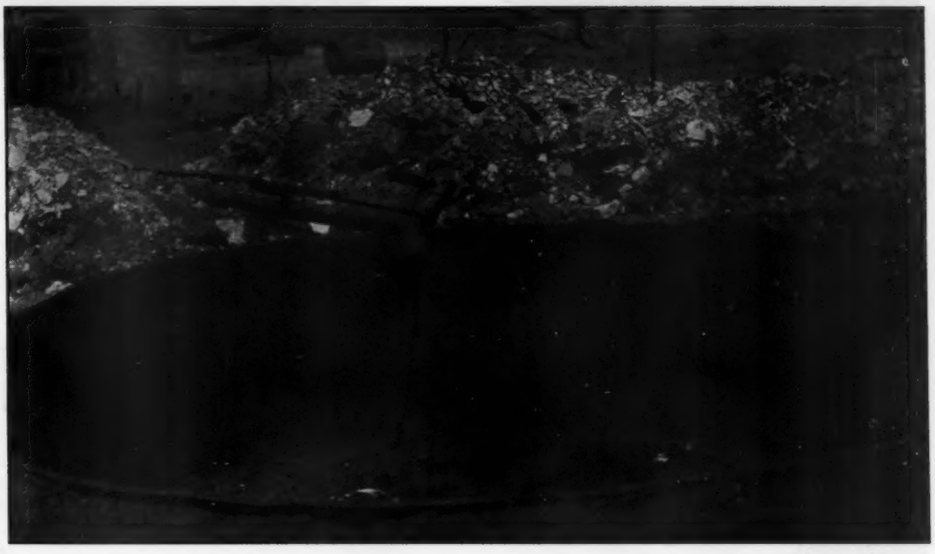


or steel tanks. A redwood box is made, a hole cut in the bottom and a valve of wood fitted over this hole. Four pegs extend through the wooden values and through holes in the bottom of the box to serve as guides for the valve.

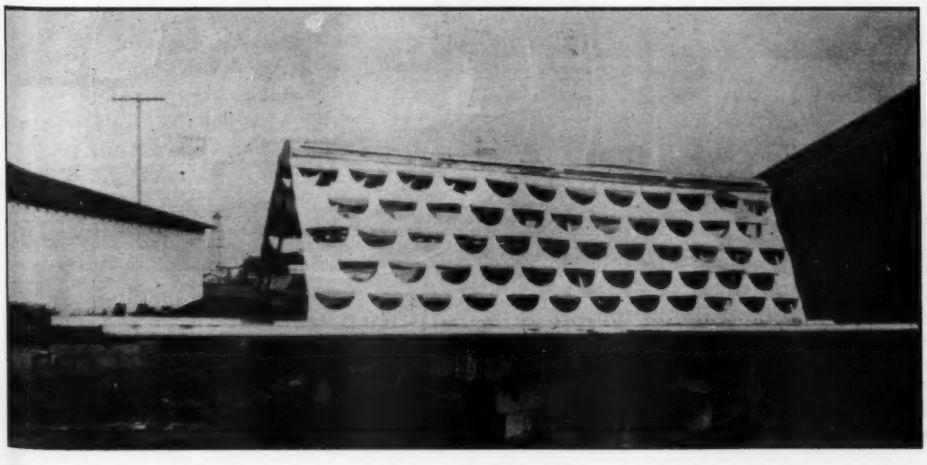


Inverted Tank for Dumping Sand from Separators

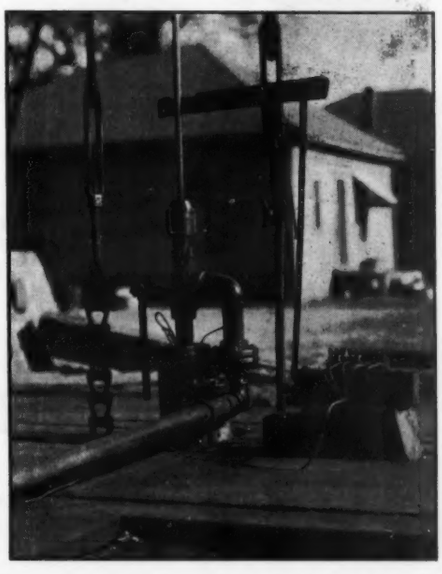
One practical use for old storage tanks is illustrated in the accompanying photograph, that of using the lower ring for trapping sand as it is blown from the separator. The installation shown here was provided by an oil company operating in the Oklahoma City field and consists merely of the lower ring of a 500-bbl. tank buried in the grounud. The ring is sunk so that the top is flush with ground level and provided with a removable cover. As the sand accumulates in the bottom of the separator it is blown to the trap, which upon becoming full is emptied. This company uses the oil sand for surfacing and maintaining roads.

Water Cooling Device Constructed from Galvanized Metal

The cooling water device shown in the accompanying photograph was constructed by taking two sheets of galvanized metal, marking off five rows of semi-circles, twelve to the row, and then cutting around the periphery of the circles. Then by bending the freed section of metal upwards and joining the two sheets at the desired angle a first class device for cooling water for engines or any other purpose was completed. At the apex of the triangle formed by two sheets a cylinder of ganvanized iron was placed and long slots cut in the lower section of the cylinder. The water is admitted to the cylinder on the top side, at about the middle, and allowed to run through slots from where it then cascades down the sides.



Novel Lubricator Trip



In many instances when pumping wells with a hydraulic head the operators encounter the problem as to how they may operate the treating lubricator. The accompanying cut shows how one company in the Oklahoma City field installed a device for lubricating. A lever was suspended so that the protruding arm came in contact with the rod clamp on the polish rod on each stroke. The other end of the lever was connected to the lubricator thus adjusting the flow.

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Engineers Face New Problems When Laying Oklahoma City Pipe Line

By PAUL REED

During the past 30 days approximately 40 miles of pipe lines of various kinds have been laid within the city limits of Oklahoma City in connection with oil field operations. Viewed from the standpoint of the usual pipe line activity in an oil field, this statement by itself does not indicate the amount of work involved. However, most of the problems are those familiar in the laying of lines in municipalities. As would be expected there is a large amount of hand work done.

Since no municipality of the size of Oklahoma City has been confronted with the job of dealing with a big oil field in its midst the city government is faced with the responsibility of devising methods for safeguarding various interests. And city officials are acutely aware of problems,

Two 40-horsepower tractors carrying a 240-foot section of 24-inch light weight pipe

When back-filling the ditch must be done on residence street lined with trees, the job is slowed up because of this fact

for which there is often no precedent to guide them.

In addition to the usual gas, water, and sewer lines to be found under city streets, the oil field has brought its own water lines and high and low pressure gas lines for wet and dry gas; also mud lines for transporting drilling mud as well as gasoline and oil lines.

As operations proceed, the number of lines, encountered underground, multiplies. Under one part of Twenty-first Street, for a couple of blocks south of the governor's mansion, there are 14 pipe lines, 10 of them being oil company pipe lines of one kind or another. And at this point Twenty-first Street is only 25 feet wide. Also, there are 14 lines at the crossing of Twentieth Street and Stonewall Street. Under Twenty-third Street (the highway

Preparing to cross the street under car tracks

running past the governor's mansion and the Capitol) there is a 6-inch telephone conduit buried 4 to 5 feet.

For the distance of a mile on Ash Street there are 34 oil company lines ranging in size from 2-inch to 10-inch, carrying oil, high and low pressure gas, and mud. In addition to these, there were also the usual water, sewer and gas lines for domestic use. For a quarter of a mile on Prospect Street, south of the Phillips compressor plant under construction, two 24-inch gas lines run parallel to each other, separated by only a short distance.

From the commencement of pipe line activity in Oklahoma City in 1929 until May 1, 1936, more than 228 miles of oil company lines have been laid through the streets. In the past year over 80 miles have been laid, estimated to involve investment of over $2,000,000.

In line with April's record of 40 miles laid, permits were issued the first week in May for a

Laying pipe right along after the ditcher

number of short lines, the longest being 1½ miles, with the total amounting altogether to 10 miles. Companies to which the permits were issued are: Phillips, Anderson & Kerr, Skelly, British American, Stanolind, Empire, Barnsdall, Petroleum Pipe Line, Frone Severns, Carter and Sunray.

In watching the laying of a line it is possible to observe some of the things that the Oklahoma City pipe line contractor has to reckon with. Pipe lines run through districts that are closely built up where street traffic increased by oil field activity must be regulated. Crossings are made under street car lines as well as under previously mentioned mains and pipe lines. Ditch digging and back filling must be done between trees where ditcher and tractor cannot be used. Large roots of trees coming across the ditch are supposed to be protected by pouring water over them and wrapping them with burlap. Added to this there is the occasional chance of finding a human obstacle in the right-of-way such as the recalcitrant property owner who plants himself or herself ahead of the

Air compressors and, in the background, a back hoe digging the ditch for a 24-inch gas line

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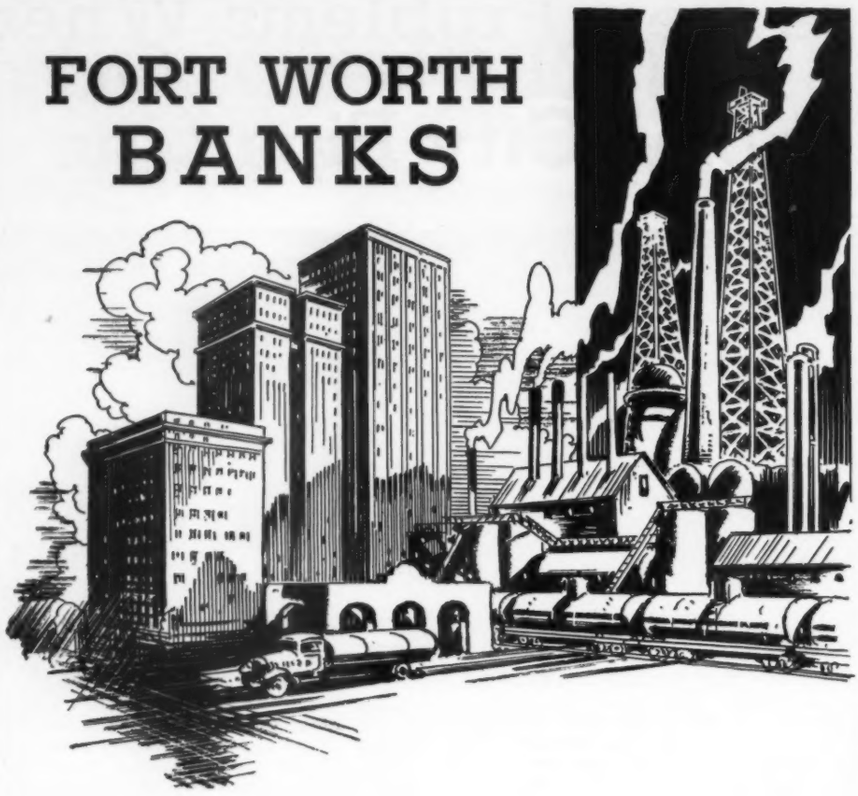

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ditch, hoping that the company will try to buy off. There is also the chance of a kick-back if a sewer pipe is broken and the ditch is back-filled before it is repaired. At street intersections the ditch is supposed to be filled in at night if the street is one of any importance.

Tractors must be equipped with wooden shoes. And if any amount of twisting and turning is to be done, the contractor is expected to plank the street to protect the pavement.

On completion of the line an inspector from the oil and gas division of the municipal government witnesses a cold water test at three times the working pressure. If the working pressure of the line is to be 700 pounds or more, the city requires that it be protected by a casing 2 inches larger in size, welded and vented at the summits.

Some things to be reckoned with in laying a line across an intersection in Oklahoma City streets: Other oil company lines, city water main and sewers, man-holes and street car tracks

At the point where the ditch is being dug, an inspector from the city water department is on hand to spot water lines and point out manholes so that precautions can be taken. While this service is furnished in the spirit of accommodation, this inspector also has an eye open to see that ordinances are complied with such as those requiring that lines being laid under existing water lines be placed at least 6 inches below. In the few cases where they go over water lines they must be timbered up at least 24 inches above. Parallel lines must be 24 inches or more from the water line. All lines are supposed to have at least 30 inches of covering.

In considering the lines for service auxiliary to the drilling of oil—such services as transporting gas, water, and mud for drilling wells—it can be seen that the mud lines have a function connected with the peculiarities of drilling in Oklahoma City. Where it is not possible to provide space near the well, a slush pond may be located at a distance of a block or several blocks away. Mud lines, commonly 4-inch and 6-inch, are also used for moving drilling mud from one rig to another, and excess drilling mud is removed in a central disposal system to the river.

The difficulties encountered in pipe line operations in Oklahoma City have increased pipe lining costs to such an extent that there is a common expression there that it must be a good field to justify the expense. If the field were not a big producer, such costs would be prohibitive.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Mining of Fuller's Earth and Its Preparation for Use

Information is desired covering the mining of Fuller's Earth and the type of machinery suitable for finishing the earth for the neutralization and discolorizing of petroleum distillates. What is the chemical composition? Are the manufacturing plants flexible as to the various sizes required?—R. E. G.

Fuller's earth cannot be identified from chemical composition but consists of silica, alumina, iron and alkaline earths in varying percentages. The distinguishing properties are lack of plasticity and the power to remove color from oils. There are numerous deposits of fuller's earth and other filtering earths in the United States; the oldest and among the most extensive are those found close to the Florida-Georgia line.

A detailed description of the mining of the clay from a representative mine of the district has been given by H. D. Keiser. The description here is based on his article.

The deposit varies from 2 to 12 feet in thickness, probably averaging about 7 feet. There is an overburden of about 37 feet. The removal of the overburden is kept about six months in advance of actual mining, leaving 1 to 3 feet as a protecting cover; the work is done by steam shovel.

The fuller's earth is removed down to the underlying sandstone, transported to the wet clay shed where it is dumped on the drying floor and dried for three days. It is then picked up by orangepeel buckets, loaded into portable distributors and delivered to belt conveyors which discharge the earth into roller crushers where it is reduced to sizes up to a maximum of 2 inches. From these crushers the clay goes to secondary crushers where it is reduced to a maximum of 1 inch. The clay is then transferred to a rotary dryer, 50 to 60 feet long and 6 to 7 feet in diameter. In the 20 minutes required for the clay to pass through the dryer the volatile and moisture content is reduced 40 to 50 per cent to a maximum of 20 per cent. The clay is removed from the dryers to hot rock cooling tanks, then to a vibrating screen. The oversize is next pulverized in a roller mill and the product is delivered to a sifter. This process may be repeated until the desired size material has been obtained. Numerous grades are produced and graded to standard mesh sizes. However, the better known are 15-30, 30-60, and 60-90, the 200 mesh being extensively used for contacting.

The large users of fuller's earth are the petroleum industry and the cotton oil manufacturing industry. The 60-90 grade is probably the most commonly used in the petroleum industry when discoloring by percolation, and the 200 when contacting. However, the 30-60 is preferred by many refiners. The size selected is apparently determined largely because of the type of reburning equipment.

Reference: Fuller's Earth, Its Mining and Manufacture, by H. D. Keiser, Eng. Min. J., June 7, 1930, page 544.

Significance of Octane Rating and Method for Determining

What is the significance of octane rating of gasoline? By whom was the method devised? Where will I find a description of the test method? Can you recommend articles or books on the subject?—R. H. M.

Octane rating is simply a yardstick. The knock of the fuel is matched in a testing engine by a mixture, say 70 per cent iso-octane and 30 per cent heptane, then the rating of the fuel is 70 octane number.

The present standards for knock rating, normal heptane, which is zero, and iso-octane (2-2-4 trimethylpentane), which is 100, were proposed by Dr. Graham Edgar in September, 1926 (see Ind. Eng. Chem. 19, 145, 1927). There have been many additional articles published on octane rating. See Chemical Abstracts from 1927 on. These publications are probably available in your local public libraries or any chemical laboratory library.

The method for determining the octane rating of motor fuels is in tentative standard form under the American Society for Testing Materials.

In addition to the numerous references you will find in Chemical Abstracts there is considerable material in the two-volume work of Nash and Howes, "The Principles of Motor Fuel Preparation."

Analyses of Saxet, Texas, Crude Oils for Products Yields

I would appreciate your giving me information concerning distillation and characteristics of Saxet, Texas, crude oils?—L. H. A.

ANALYSES OF SAXET, TEXAS, CRUDE OILS

	Saxet	Saxet Heights
Gravity, A.P.I.	25.5	23.4
Color	green	green
B.S. and W. %	0.2	0.4
Pour point	Below zero °F.	Below zero °F.
Distillation °F.		
I.B.P.	137	199
Per cent off		
5	369	393
8.8	400	...
10.0	...	430
58.1	562	...
60.0	...	607
70.0	...	655
41.1	Residue	...
29.8	...	Residue
Products		
Naphtha %	8.8	7.5
Gravity	43.2	35.8
Color	30	25
Octane No.	66	..
I.B.P. °F.	181	289*
E.P.	446	410
Furance Oil %	49.4	65.6
Gravity	30.1	27.1
Color	Prime white	1 N.P.A.
Visc. @ 100° F.	36	41
Pour point	Below zero	Below zero
Fuel Oil Residue		
Gravity	17.4	15.8
Yield %	41.1	29.8
Pour point °F.	0	10
Visc. Furol @ 122° F.	..	82

*The cut at 410° redistilled to 395° F., gravity 36.9 A.P.I.

SPECIFICATIONS

LONG TIME BURNING OIL

This specification covers a grade of oil, a pure petroleum fraction, suitable for use by the Federal Departments where an illuminating oil for long time burning is required.

The oil shall comply with the following:

Burning test, hours	120-156
Flash, min. °F.	115
End point °F max.	599
Cloud point °F. max.	0
Flock test	negative
Sulfur, max. %	0.10
Doctor test	negative
Color, Saybolt, min.	+21

At the end of the burning test, the flame shall not be smoky, the chimney shall be clear or only slightly clouded, and no appreciable hard incrustation shall be on the wick.

Reference: Federal Stand., Stock Cat., Sec. 4, Part 5, VV-O-381.

Improved Properties of Solvent Processed Oil Over Regular Oils

We would like to see some statement showing how the properties of solvent refined lubricating oils are improved over the conventionally refined oils. Do you have something of this kind in convenient form?—N. Y.

There are several properties that are improved by the solvent refining methods, of which the most important are—carbon residue, pour point, viscosity index, resistance to heat and tendency to form oxidation products. The numerous articles which have appeared in The Oil and Gas Journal within the past five years have in many instances included information about the characteristics of the oils prepared by the several solvent methods. The article by Robert E. Wilson and P. C. Keith, Jr., discussed the significant properties above mentioned. The reasons for the interest in, and rapid expansion of, solvent extraction processes are: (1) The desire to produce oils of unvarying quality without regard to the origin of the crude oil. (2) To minimize acid losses and sludge disposal problems. (3) Need for a better oil as regards ease of starting, sludging tendencies and consumption characteristics, because of larger motors operating at higher speeds and temperatures.

The extended investigations of Lt. Col. Auld included many analyses and tests especially designed to determine the value of solvent made oils for aircraft engine service. The comparisons following are from this source.

A Mid-Continent motor oil of good quality, viscosity, Saybolt, 61 at 210° F. was increased in the solvent oil from 97 viscosity index to 105 and an aviation oil, Pennsylvania origin, 122 viscosity at 210° F., from 90 to 92 V.I.

The reduction in carbon residue is frequently of the order of 30 to 60 per cent; a few examples are shown in the table.

CARBON RESIDUE

Kind	Refined by usual methods	Solvent refined oil
	Per cent	
Mid-Continent	0.80	0.28
Pennsylvania	0 88	0.29 (c)
Pennsylvania	0 55	0.34 (d)

(c) and (d) are aviation oils.

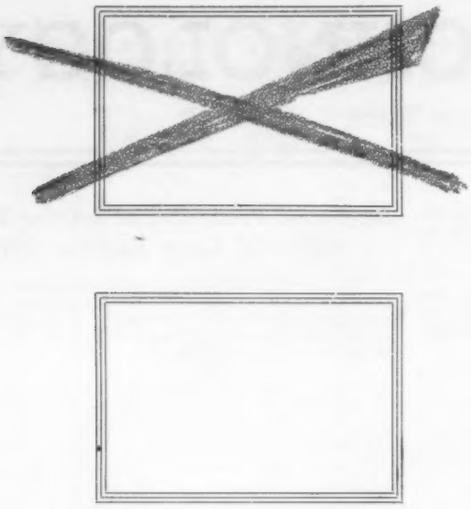
The several tests for resistance to oxidation and viscosity temperature experiments disclosed viscosity increase with rise in temperature favoring the solvent oil. "This feature presumably represents the formation of oil soluble oxidation or polymerization products of the asphalteneogen or resinous type, since at identical temperatures the solvent treated oils give nil asphaltene values. This freedom from asphalt formation is maintained at still higher temperatures than those quoted."

Examination of the pistons from engine tests showed "that ordinary high-quality oils give practically complete failure in 100 hours' run, due to sticking of the piston rings in their grooves. Similar tests, using a suitable solvent refined oil, show the piston rings to be perfectly free and the deposits very greatly reduced. In fact, the piston is fit for further use without cleaning."

Numerous authorities have reported data showing reductions of pour points from 20° to 30° F. to below zero, some —10° to —15° F.

References: Wilson and Keith, The Oil and Gas Journal, July 19, 1934, p. 14. Auld, J. Inst. Pet. Technol. 22, 57, 1936.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired postage should be enclosed.



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Hope to Improve Quality by Revision of Standards

NEW YORK, June 8.—Gasoline better suited to the needs of the car user, and a higher average mileage per gallon is the goal of a program of specifications and tests for gasolines announced here by the American Standards Association.

The main impetus for the program has come from fleet operators who are some of the largest users of gasoline. Members of the Bus division of the American Transit Association alone buy approximately $10,000,000 of gas yearly. One company alone uses 25,000,000 gallons a year. There are, in addition, at least 35,000 other common carrier buses in operation in the United States whose owners have an equal interest in the problem.

The Transit association, in proposing the project, pointed out that operators engaged in long distance service are compelled to purchase much of their gasoline from service stations on their route. Companies operating such buses find it particularly difficult to secure gasoline of uniform characteristics, and feel that this situation would be materially improved by standard specifications.

Work on this project is being carried out through the cooperation of all interested groups. The American Society for Testing Materials is taking leadership in the technical work. Other represented groups will include consumer and producer organizations, the government, scientists, and automobile manufacturers.

The formulation of technical requirements has already been started, and tests are under way to determine their practical workability. T. A. Boyd, head of the Fuel Section of General Motors, is chairman of the committee in charge of this work, and R. E. Hess, of the American Society for Testing Materials, its secretary.

The same committee is engaged in the development of specifications for lubricants—a subject of almost equal importance to the car owner.

High Compression Tractor

A world's record for farm tractors has been made in tests at the University of Nebraska. Power was doubled and fuel consumption cut one-fourth. Converted to high compression and using regular grade gasoline of 70 octane, the tractor increased its capacity from two plows to four, heralding the spread to the agricultural areas of the latest advances in automobile design, according to C. G. Krieger, field engineer of the Ethyl Gasoline Corp.

The achievement, Mr. Krieger declares, enables the gasoline engine to challenge the supremacy of diesel power and points the way to huge reductions in farm costs, including savings in motor fuel and oil of over $50,000,000 annually.

"This was the first high compression tractor to undergo tests in Nebraska under a state law," Mr. Krieger explains. "The tractor set a new world record for power output per cubic inch of engine displacement and fuel economy for a spark ignition carburetor engine. The old records were not beaten by a narrow margin but by as much as 30 per cent.

"As a matter of fact, this tractor delivered 41.6 horsepower at the end of the belt with a specific fuel economy of .528 pounds per horsepower hour. This new record automatically places the high compression gasoline engine in the same class as the diesel engine so far as specific fuel economy is concerned.

"There are some diesels that have a specific economy better than .528 but nevertheless a high compression gasoline tractor for the first time in history has beaten at least one diesel tractor which has a specific fuel consumption of .537 pounds per horsepower hour.

"Still further improvements on the gasoline tractor engine will be made, and it is probable that within the next year another test will be run, the results of which will beat all the diesel records that have been obtained to date."

PROBLEMS FROM READERS

Edited by T. F. Smiley

Using Core-Drill to Complete a Well Where High Gas Pressures Exist

Has a diamond core-drill ever been used to complete wells instead of cable tools? I have been told that this device has been used in fields where high gas pressures made it hazardous to use even cable tools after the hole had been carried to the producing formation by rotary. None of the oil men of my acquaintance here are able to give me any details concerning this practice. —R. L. E.

Wells which on account of excessive gas pressures could not be finished with standard types of either cable or rotary tools have been completed in many cases with core-drills. Core-drilling machines have been used with notable success in the Turner Valley field in Alberta, Canada, where the difficulty mentioned was encountered. Discussing this subject, Walter H. Jeffery's "Deep Well Drilling" says:

"With some of the rotary-drilled Turner Valley wells the heavy gas pressure had a tendency to blow the drill pipe from the hole, although weighted mud fluid was used. The cable tools could make no further progress in the hard limestone against the heavy pressures, which are from 2,000 to 3,500 pounds per square inch. Following are interesting examples of some of the work accomplished in this field:

"The Dalhousie No. 1 well had been finished in 1914 to a depth of 3,450 feet as a small producer. It was attempted to deepen it with cable tools. After 17 months several strings of tools had been lost and the well had been deepened only 70 feet. At 3,500 feet, with a bad fishing job, the cable tools were replaced with a diamond drill and in four months' time the well was completed at a depth of 4,565 feet, producing 350 bbls. of naphtha and 20,000,000 feet of gas daily.

"The Royalite No. 14 well had been rotary-drilled to a depth of 3,470 feet. Due to the formation being so hard that the rock bits could make little further progress in drilling it, a diamond drill was employed and it completed the well at about 4,000 feet against a volume of 25,000,000 cubic feet of gas.

"The diamond core-drill has been able to take over and complete such wells, principally due to its use of flush-joint drillpipe which can be forced down through a stuffing-box against heavy pressure and can be prevented from being blown out by means of a hydraulic rod-brake, which grips and holds the pipe while pulling out.

"These machines have been successfully used to continue or complete wells that, for various reasons, such as crooked holes, pinched holes, very hard formations and holes reduced by additional strings of casing to very small size, could not economically be drilled deeper by other means. These diamond core-drills have drilled 2½-inch diameter holes at depths of 6,000 feet, which gives them an obvious advantage over either rotary or cable tools for such work.

"Some large diameter holes now are drilled with the diamond drill. For example, a 25-inch hole was started in New Zealand; 21½-inch casing was set at 303 feet and 16-inch casing was set at 1,956 feet.

"Diamond core-drilling machines operate on the rotary principle. Flush-joint drillrods or drillpipe are used and, with the larger type machine, a grief-stem, or "kelly," and a drawworks, the same as used with rotary outfits, may be used if desired. Double-tube core-barrels are used, the water or mud fluid passing down between the two tubes to the cutting head and thence circulating between the pipe and wall of the hole to the surface. When drilling formations of which it may not be necessary to take cores, the usual type of either fishtail or rock bits may be used. Core-barrels with the bits set with diamonds are used for coring hard formations, and bits faced with a hard material may be used for taking cores in soft formations. The core-barrels take cores of diameter in proportion to the size hole cut.

"When approaching a formation where high pressures may be expected a string of casing is first set and securely cemented. A heavy master gate-valve is screwed on the casing at the cellar floor and just above it a heavy cross is connected and above the cross a drilling-valve. Valves are connected to the side outlets of the cross, one to control the mud and returns and the other to the mud-pump to provide for reverse circulation. A joint of casing is screwed to the drilling-valve. To the top of the casing the rod-brake and next the stuffing-box are attached. The rod-brake is hydraulically operated and controlled by a valve which regulates the trip of the brake on the drill-pipe so that the flush-joint pipe may be fed through slowly, or securely held, as desired. The stuffing-box packs the drillpipe, preventing the escape of oil or gas while the pipe is being put in, withdrawn or rotated. By means of the hydraulic cylinder the pipe can be forced into the hole against the heaviest pressures thus far encountered. In pulling out of the hole the process is reversed. In this manner it was possible to complete the wells in the Turner Valley. Due to the fact that the inside string of casing may be as small as 3 inches in diameter in the wells drilled with the diamond drill, wells may be started with smaller size casing, with a resulting economy in casing costs."

The core-drill often is used to drill deep experimental, or wildcat, wells where if commercial production is indicated, the rotary or cable outfits may be employed later for development.

WHY THEY CALLED IT

Fish Theory

The fish theory, that is, the theory that fishes were the primary source of petroleum, was offered by Dr. John M. Macfarlane. However geologists may have regarded the theory, it may be stated that most geologists today assign the origin of petroleum to neither plant remains nor animal remains exclusively, but believe both contributed. This admits fishes as a source without attempting to say how important a one. Discussing whether there ever have been enough fishes in any body of water to produce the oil now found, Doctor Macfarlane points out that volcanic activity results in heavy destruction of aquatic life. Fishes, he says, "often move in such crowded shoals that a water depth of 20 or 100 feet may be almost solidly occupied by them for miles."

Complete Oil String Has Important Advantages Over Use of a Liner

I have noticed that some of the men around the lease call the bottom string of casing the oil string and some call it the liner. Isn't this a mistake? In this connection I wish you would explain whatever reasons there are for using the full oil string in preference to the short bottom string, which I am inclined to believe is what is properly called a liner.—F. E. T.

It is a fact that many oil-field men use the terms "oil string" and "liner" as though they meant one and the same thing. If you refer to this habit, you are right in your belief it is a mistake. The name "oil string" properly is applied only to the smallest full string of casing run into the well. Sometimes this string includes one or more joints of perforated or screen pipe, which is set opposite the producing horizon. "Liner" refers to a short string of casing lowered into the well on drill pipe, tubing or drilling tools. This short string usually is set on the bottom of the hole and extends a distance of several joints within the water string. When it is desirable and possible to produce without loss of oil into "thief sands" from a series of sands in the same well, a liner sometimes is made up with perforated pipe opposite the productive formations only. With reference to the advantages of using full oil strings Prof. H. C. George says in his work on "Oil Well Completion and Operation":

"Complete oil strings offer many advantages that are not possible with the use of liners. Full strings of casing, particularly in the Gulf coastal fields, are run generally, even though liners are cheaper. It has been found that difficult redrilling jobs in California and the Gulf Coast usually can be accomplished more readily if a full string of casing is in the hole. For example, sidetracking of oil casing may be done with more certainty, and partially collapsed casing can be swedged out more easily if a full string is in the hole. Although perforated and screen pipe seldom can be pulled either in California or the Gulf Coast, when once set opposite producing sands, there is more chance of pulling screen or perforated pipe on a full oil string than on a liner.

"Screen pipe in many cases becomes weakened by the corrosive action of underground waters or is clogged with deposits of one sort or another, and a new string of screen pipe of smaller diameter is required frequently after cleaning out or repairing a well. The second or smaller-sized string of screen pipe is run inside the old screen pipe. Sometimes, however, the bottom of the hole is 'bridged,' and after setting a whipstock and milling through the casing by a tool attached to the lower end of the rotary pipe, a new bottom is drilled for the well, and a new perforated liner or screen pipe is run. There have been instances in the Gulf Coast fields where this practice has been repeated four or five times in a producing well, when the openings in the screen pipe or perforated liner had become clogged with sand or their effectiveness destroyed by corrosion.

"The danger of damage to the screen pipe and liner while setting on the bottom of the hole has caused many operators to use a full oil string with a screen pipe on the bottom. The oil string is swung in the well and supported by clamps at the surface so that most of the weight of the casing is removed from the screen pipe.

"In the California fields a full oil string is usually set near the bottom of the hole with perforated or screen pipe opposite all of the productive sands, because the oil sands are unconsolidated and the producing zone is frequently many hundreds of feet thick."

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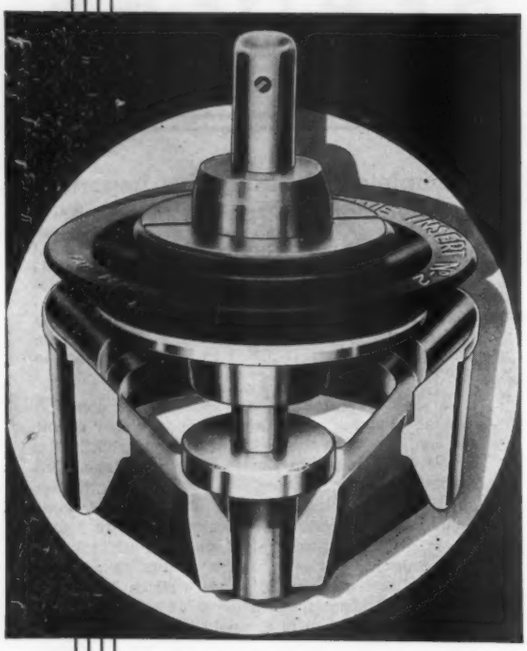

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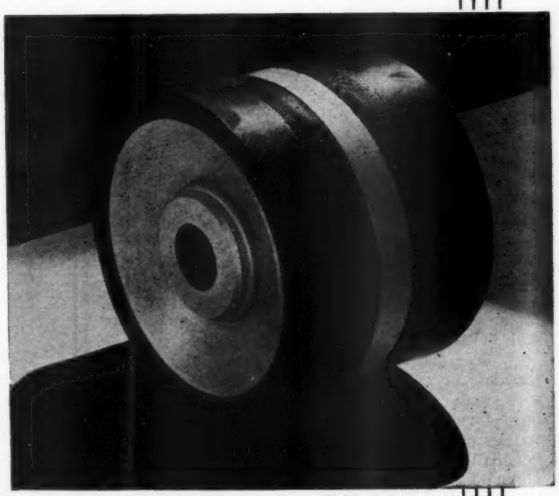

MISSION VALVES AND MISSION PISTONS ARE MAKING ECONOMY RECORDS THE WORLD OVER

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FIELD OPERATIONS

Summarizing the Week's Developments

A number of important pools were opened in the United States in the past week and an interesting plan to repressure the famous old Salt Creek field in Wyoming with gas to be piped 125 miles, or more, was made public. Geophysics won a place for itself in California with its first successful demonstration.

CALIFORNIA

The first field in California to have been discovered by geophysical exploration was opened in the past week by Shell Oil Co. in the Stevens area, Kern County. The well flowed 650 bbls. of 61.3 gravity oil the first day together with 16,540,000 feet of gas.

WYOMING

Engineers are studying the feasibility of piping gas from the Big Horn Basin in Wyoming to the Salt Creek field in the same state, to repressure the field under a unitization plan. The field has been one of the leading oil producers in the United States, but has long been on a settled basis. The plan would require the laying of a pipe line over 125 miles in length.

GULF COAST

A new pool was opened in Harris County, Texas Gulf Coast area. It produced 4 bbls. per hour on a 16-hour test through a small choke. The Ace field in Polk County, heretofore a gas field, proved it was also an oil region in the past week when a 349-bbl. well was completed by Dick Schwab.

NORTH LOUISIANA

The deepest well in Louisiana, drilled by Ohio Oil Co. in the old Cotton Valley pool, came in this week producing 25,000,000 feet of gas from sand at 8,100-40 feet. It is believed to be producing from the lowest member of the Marine Trinity. It was started as a 10,000-foot test and may be deepened if oil does not develop.

J. P. Evans opened an important producing area in Webster Parish with a wet gasser producing close to 100,000,000 feet per day with amber distillate at a rate variously estimated at 240 to 360 bbls. per day. Fourteen new wells were completed in the Rodessa area in Caddo Parish, Louisiana, and Cass County, Texas. The Rodessa townsite promises to be closely drilled with possibilities that wells will be drilled in streets and alleys.

OKLAHOMA

The feature of the week in Oklahoma was the Sinclair Prairie Oil Co. and others No. 1 Franklin, section 21-10-2w, discovery well in the Moore pool of Cleveland County, which flowed 4,239 bbls. of oil in 3 hours, to prove a new major field for the state. Gas gauged more than 100,000,000 feet. In the southern part of the state, Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Westheimer & Daube, in section 27-6s-2e, opened a Viola lime pool, the first in Love County. Several more wells were in the rich Wilcox pay in the Capitol extension at Oklahoma City, and steps were taken to offset the threat of salt water on the northern edge of the extension

KANSAS

In Kansas the Ruder pool in Ellis County was extended a half mile and a wildcat 5 miles northeast of the Geneseo pool in Rice County gives indications of becoming a large oil producer from what may be Wilcox sand. A 2,400-bbl. well producing from Chat, was found in the Hauschild pool in Rice County.

WEEKLY CRUDE OIL STOCKS

Stocks of domestic and foreign crude petroleum at the close of the week ending May 23 totaled 314,325,000 bbls., according to data compiled by the Bureau of Mines. Compared with the figures of the previous week, this total represents a decrease of 1,156,000 bbls., but comprising a decrease of 1,247,000 bbls. in stocks of domestic crude oil, but an increase of 91,000 bbls in stocks of foreign crude.

Highlights on Outstanding Fields

(Week ending June 6)

TEXAS

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
Anahuac	2	7	1	880	82	8,237
Hastings	1	8	..	.....	73	7,232
Loma Novia	3	15	13	5,665	461	13,800
Seven Sisters	7	9	9	3,870	185	13,200
Saxet Heights	4	16	6	670	96	7,430
Saxet	6	21	7	2,550	123	10,220
East Texas	37	135	61	*2,052	20,714	446,554

*Average duration of initial production 2 hrs. 9 minutes per well.

OKLAHOMA

Oklahoma City	13	115	0	.....	1,004	134,775
Fitts	10	59	8	10,840	364	52,175
Burbank-S. Burbank	0	16	2	2,592	2,135	24,250

KANSAS

Ellis County	5	22	2	2,687	23	*1,221
Reno County	1	27	2	845	273	13,981
Rice County	9	52	4	2,414	462	22,759
Russell County	8	52	4	3,948	419	13,837

NEW MEXICO

Lea County	16	99	7	7,905	907	63,200

LOUISIANA—TEXAS

Rodessa, La.	18	37	8	5,616	194	58,200
Rodessa, Tex.	7	10	6	6,216	18	4,335
Gilles, La.	3	6	1	500	42	18,056
Tepetate, La.	1	4	0	.....	16	3,921

MICHIGAN

Porter-Yost	7	18	2	300	384	18,056
Crystal-Montcalm	5	18	4	1,000	127	6,402

Stocks of Crude Petroleum in United States

GRADE OF CRUDE OIL	May 16, 1936	May 23, 1936	May 25, 1935
Pennsylvania grade	4,311,000	4,236,080	4,657,000
Other Appalachian	896,000	911,000	1,066,000
Lima-N. E. Indiana-Michigan	1,398,000	1,366,000	1,332,000
Illinois-S. W. Indiana	10,382,000	10,346,000	11,636,000
N. Louisiana and Arkansas	10,235,000	10,482,000	10,216,000
West Texas and S. E. New Mexico	29,117,000	28,869,000	31,115,000
East Texas	20,867,000	21,386,000	30,892,000
Other Mid-Continent	127,884,000	126,722,000	147,888,000
Gulf Coast	28,800,000	28,549,000	22,473,000
Rocky Mountain	26,480,000	26,591,000	27,535,000
California	35,114,000	34,839,000	30,663,000
Foreign	3,047,000	3,138,000	3,906,000
Total reported weekly	298,531,000	297,425,000	319,473,000
Estimate of unreported stocks	16,950,000	16,900,000	9,800,000
Total stocks	315,481,000	314,325,000	329,273,000

Completions in All Fields

(Week ending June 6)

	Oil	Gas	Dry	Tl.
Penna Grade Fields	33	14	4	51
Lima Field	0	0	0	0
Central Ohio	0	3	3	6
Indiana	0	1	1	2
Illinois	0	0	0	0
Michigan	10	4	10	24
Kentucky	1	0	0	1
Kansas	23	1	9	33
Oklahoma	46	1	22	69
North Cent. Texas	18	1	18	37
West Texas	17	0	5	22
Texas Panhandle	11	3	0	14
East Central Texas	1	0	2	3
East Texas	62	0	3	65
East Texas border	6	0	0	6

	Oil	Gas	Dry	Tl.
Gulf Coast Texas	16	1	6	23
Southwest Texas	48	1	10	59
Total Texas	179	6	44	229
North Louisiana	15	2	2	19
Gulf Coast Louisiana	7	0	4	11
Total Louisiana	22	2	6	30
Arkansas	0	0	0	0
Montana	3	0	0	3
Wyoming	1	0	0	1
Colorado	0	0	0	0
New Mexico	17	1	3	21
Utah	0	0	0	0
California	21	1	9	31
Total U. S.	356	31	108	495

Eastern Field Report

By STAFF CORRESPONDENT

THIRTY WELLS DRILLING IN W. VA. ORISKANY GAS FIELD

PITTSBURGH, Pa., June 8.—With over 30 operations drilling or scheduled for an immediate start, the new Oriskany field in West Virginia is assuming larger proportions. Five new locations were reported during the week, two of which are in Poca district, Kanawha County, in which there has been only one completion but that one alone has a daily potential of 7,000,000 feet.

This field, however, is not alone in renewed activity as new work is reported in all of the three lower districts, particularly the gas areas. Lack of new oil production in these fields is worthy of comment in view of the total number of wells being completed each month. Southeast Ohio, alone, continues to report several new oil wells a week.

During the past week 21 operations were completed in the lower eastern field which resulted in 13 gas wells, three day holes, and five oil wells with an initial daily production of 118 bbls. All of the new production was in Southeast Ohio.

SOUTHEAST OHIO

The focus of interest is the deep tests in Columbiana County, Ohio. In the SE cor. of section 31, Madison Township, the Natural Gas Co. of West Virginia is drilling at 4,350 feet in the deep test on the Strudthoff farm. The top of the Lime was at 4,180 feet and the elevation of the mouth of the test was 1,164 feet. About a mile northeast of the Oriskany gas well on the Margaret Jenkins farm in section 28, Madison Township, this company is drilling a deep test on the Albert Ketchum farm. In the NE SW of section 25, Wayne Township, Columbiana County, the same company has a rig up for a deep test on the Feingold farm (mapped Issaih Grafton). It is about a mile west of the Jenkins gas well.

In Athens County, the Paramount Natural Gas Co. completed a second test on the Carbondale Coal Co. Farm No. 1 in section 31, York Township, in shale at a depth of 2,408 feet as a gas well gauging 1,000,000 feet a day.

In Belmont County, the Union Gasoline & Oil Corp. completed No. 3 Albert Smelko in the SW quarter of section 26, Richland Township. It was drilled in the Berea sand at a depth of 1,847 feet and it is producing 15 bbls. a day naturally.

In Licking County, the Blue Rock Oil & Gas Co. completed No. 8 on the John Freese heirs farm in the SW quarter of section 14, Fallsbury Township. It is a fair producer in the Clinton sand at 3,040 feet and produced 90 bbls. the first day, after shot.

In Medina County, E. R. Edson & Son Co. drilled a test on the Lillian E. Williams farm, Tract 17, Lot 4, Chatham Township, through Berea grit to a depth of 585 feet. It was a dry hole.

In Meigs County, the Meigs Developing Co. completed a test on the A. Gandee farm, in the NW quarter of section 29, Lebanon Township, in the Berea sand at a depth of 1,991 feet. It is a gas well gauged at 500,000 feet a day.

In Monroe County, Homer Newhart and others completed a test on the Clanche Blair farm in section 5, Bethel Township, in the Injun sand at 1,780 feet. It is a gas well gauging 80,000 feet a day with a small oil showing.

In Noble County, F. M. Aiken, Inc., and others drilled No. 74 George Dyer, in the NE quarter of section 8, Jefferson Township, through the Stray sand at 725 feet. There was a small amount of gas in the Macksburg 500-Foot sand just above the Stray sand, but it is a dry hole.

In Perry County, the Preston Oil Co. completed a test on the F. G. Rhoades farm in the SW quarter of section 7, Clayton Township, in the Clinton sand, total depth 3,216 feet. It produced 10 bbls. the first day after shot, along with about 50,000 feet of gas daily.

In Washington County, D. T. Orndoff completed a second test on the Rufus Beach farm in section 18, Barlow Township. Big Mahoning lime at 811 feet produced 2 bbls. the first day after a shot. In the same section H. F. Tretchel completed a test on his own property in the Cow Run sand at a depth of 602 feet as a quarter-barrel pumper after the shot.

SOUTHWEST PENNSYLVANIA

Two gas wells were completed in Southwest Pennsylvania. In Amwell Township, Washington County, South Penn Oil Co.'s test on the J. Q. Dickinson farm was bottomed at 1,957 feet. The top of the Injun sand was at 1,952 feet and a heavy volume of gas was struck at 1,957 feet. It is estimated good for 2,500,000 feet a day and a line is being run to it to test it. This well is located along the Fifth sand streak in the township and if the gas blows down it will be drilled deeper.

In Aleppo Township, Greene County, the Manufacturers Light & Heat Co. completed a test on the Lucy McCracken farm in the Third Salt sand at 1,831-35 feet with gas having a volume of 1,000,000 feet a day showing at 1,832-34 feet.

Deep Tests

Two miles south of Hickory in Pleasant Township, Washington County, Norwood Johnston and others resumed drilling the deep test on the James McBurney farm. A heavier engine was installed and the present depth is just past the 4,000-foot level.

On the Chestnut Ridge in South Union Township, Fayette County, William Snee and others have not yet reached bottom in the deep test on the Summit Hotel property. After a cave, the tools are now less than 100 feet off bottom.

WEST VIRGINIA

Completions in West Virginia consisted of eight gas wells and one dry hole. No oil wells were brought in and few are being drilled in oil territory. The majority of the gas completions were in Cabell County.

In Grant district, Cabell County, the Shale Gas Co. completed a second test on the Charles Morrison farm at a total depth of 3,678 feet as a gas well gauging 567,000 feet a day. In McComas district, the Kentucky West Virginia Gas Co. completed a test on the Arnold Walker farm as a small gas well.

In McComas district, Cabell County, the test of Adkins & McComas on the Caldwell heirs farm resulted in a fair gas well. The Big Injun sand was found at 1,467 feet and about 2,500,000 feet of gas at 1,468-70 feet. In this district, W. C. Kingery and others completed No. 5 Pratt heirs at a depth of 1,438 feet. It gauges 631,800 feet a day from the Big Injun sand at 1,534-38 feet.

In Calhoun County, H. S. Adams and others completed a test on the J. L. Stump farm in Lee district on the Left Fork of Daniels Run in the Injun sand at a total depth of 2,273 feet. It gauged 80,000 feet a day naturally, and after an 82-quart shot, 284,000 feet a day. In Washington district, the Clark Drilling Co. completed a well on the Perry Meadows farm in the Salt sand at a depth of 1,665 feet.

In Kanawha County, Godfrey L. Cabot, Inc., completed the second test on the Kanawha Land Co. lease in Loudin district at a depth of 4,010 feet, the Brown shale. It gauged 31,400 feet a day, naturally, which increased to 125,000 feet a day after a shot.

In Monongalia County, the Hope Construction & Refining Co. drilled deeper the No. 570 on the S. H. Shriver farm in Battelle district to 3,300 feet. The Pittsburgh Coal was at 868 feet; Fourth sand at 2,259 feet; the Fifth sand was at 2,377-79 feet with 500,000 feet of gas in the last sand.

In Wirt County, W. C. Patterson drilled No. 27 John C. Hale in Clay district through the Cow Run sand, depth 323 feet, and it was a dry hole.

Oriskany Gas Field

Among the new locations for tests in the Oriskany gas field in Kanawha County, the most interesting are two in Poca district. On Boardtree Run, United Carbon Co. has started grading a road to a location on the S. H. Milam farm of 59½ acres. It is 4,500 feet north, 70 degrees east, of the Oriskany gas well on the D. A. Griffith farm, which gauges 7,000,000 feet a day. On Grapevine Creek in this district, the same company is hauling in material for a test on the Ahaz Spencer farm, 3,000 feet due south of the Griffith well.

In Elk district, Kanawha County, United Fuel Gas Co. has made a location for No. 4,663 C. B. Graham, on the Elk River. This offsets the Yoak Oil & Gas Co. test on the Goshorn farm and is about 655 feet southwest of it. In this district, this company has made a location for No. 4,627 on the King Land Co. lease on Falling Rock Creek.

In Malden district, Kanawha County, the United Fuel Gas Co. has made a location for a fourth test on the George Creek Land & Mining Co. lease, located about 3,600 feet northeast of No. 4,657. On this lease this company has built rigs for the No. 4,643 and 4,657 and the location made for the No. 4,658. The new location is on Left Fork of Spring Creek.

In Elm district, the test of the Columbian Carbon Co. on the Elkland Improvement Co., south of the Elk River, appears dry before a shot. The Corniferous lime in this test was at 4,933-5,036 feet, with the top of the Oriskany sand at 5,036 feet. The present depth is 5,070 feet, or through the Oriskany sand. In the test on the W. H. Baxter and others lease, west of Coopers Creek, this company is drilling out the bailer lost at 4,572 feet. On the W. L. Burdette farm this company has reached 5,014 feet in deepening it from the Shale. It is within a few feet of the Oriskany sand. On the M. M. Robertson farm west of Coopers Creek, which was dry in the Oriskany and is being drilled down to the Newburg sand, drilling is down with a fishing job at 5,660 feet.

In this district, V. C. Smith and others have reached 5,603 feet in deepening the test on the island at the mouth of Coopers Creek. The Yoak Oil & Gas Co. is running 8¼-inch casing at 1,400 feet in No. 2 Goshorn heirs. Benedum & Trees are running 10-inch casing at 1,515 feet in No. 2 Mary C. Wingfield. Godfrey L. Cabot, Inc., has rig up on the R. L. Bibby farm east of the Wingfield farm. Glen Oil & Gas Co. is down 2,780 feet on the Virginia Joint Stock Land Bank (Morse) lease. The United Carbon Co. is building rig on the Henry C. Smith farm.

In Malden district, Godfrey L. Cabot, Inc., is drilling out bailer at 4,100 feet on the W. D. Lewis farm. This operator has reached 1,290 feet in the second deep test on the William Tompkins farm; 3,840 feet in the No. 2 on the Nellie B. Tompkins farm and 675 feet in the No. 3; on the Campbells Creek Coal Co. lease

(Continued on Page 80)

Southwest Texas District

By
GEORGE WEBER

LOPEZ FIELD EXTENDS INTO DUVAL COUNTY; WILD WELL

SAN ANTONIO, June 8.—An important northeastward extension of the Lopez field over into Duval County, and the wild producer opening new production in Nueces County, shared the spotlight in Southwest Texas fields during the week. In the Saxet field, development of the new Frio producing horizon is gaining, and several of the smaller fields in the section are seeing increased activity, but there is a slight let-down in some of the larger drilling areas. The new deeper sand in Samfordyce is being worked for possible oil production. Wildcats which have been showing for anticipated openers of new fields have been slow in developing, but some developments in this line are expected this week.

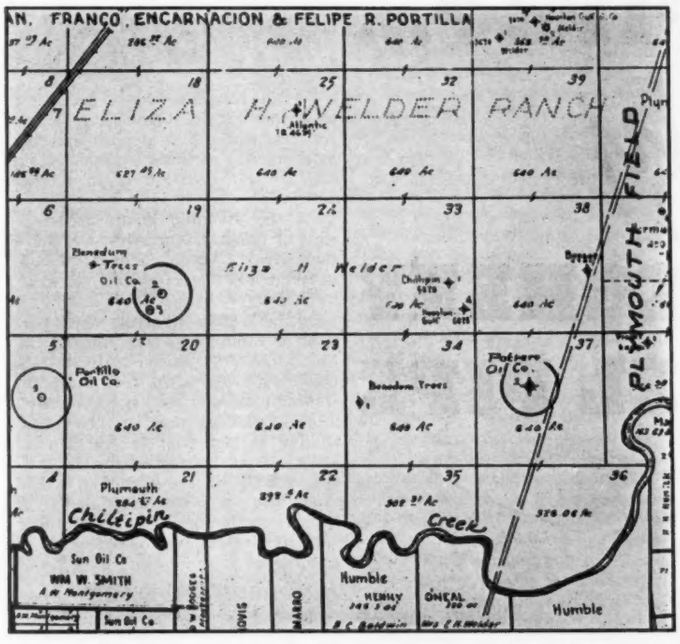
The good show of oil which Magnolia Petroleum Co. tested in No. 1 Peal constitutes a most important development for the Lopez field. The Magnolia test is located just across the line in Duval County. Late in the week a drill stem test was made, and 425 feet of oil was recovered in 11 minutes from sand at 2,114-19 feet. The test was made with five-eighths inch chokes, and pipe is being run for probable completion early in the coming week. This well has been watched with intense interest by the field operators due to its critical location. Several weeks ago Luling Oil & Gas Co. drilled a north outpost test to the field. The well, No. 1 Peal, in Survey 72, ran higher than any of the wells in the field, and found only gas in the sand, indicating that the field structure extended beyond it to the north and east. The Magnolia location, which is in Survey 383, is more than a quarter of a mile due east of the Luling gasser. The finding of oil in this test supports the supposition that the field will eventually extend a considerable distance into Duval County.

Already the Lopez field has more than 100 producing wells, and the new extension augments its importance as a potential source of much crude. Since the 2-mile southward extension was given the field last October when C. F. Lewis No. 1 Lopez was completed in Survey 110, the bulk of activity in the field has been between the original field and the extension, and to the west of the intervening area. This second major extension to the field will probably cause an early influx of drilling rigs to the northeastern section.

Wild Well in Nueces

Of a more spectacular nature, the wild Nueces County oil well has held the attention of operators during the entire week. The test, O. W. Killam No. 1 Ellich, cored sand at 3,885-98 feet and saturation from 3,292-98 feet. The well went out of control Sunday, May 31, blowing about 1,000 feet of drill stem out of the hole and wrecking the derrick. Attempts to cap it have met with difficulty due to the great pressure and the quantity of sand which the gusher is making together with oil and salt water. Conservative estimates place the flow at around 2,000 bbls. per day. The well was closed in for short intervals during the latter part of the week, but the high pressure has prevented it being completely controlled.

The real importance of the discovery is that it opens a probable mile-



Three wildcats, active west of the Plymouth field in San Patricio County. Benedum & Trees No. 2 is coring below 6,840 feet, and No. 3 below 3,650 feet. Portilla Oil Co. No. 1 Welder is drilling below 5,000 feet. Circle to the east indicates Potrero Oil Co. No. 1 Welder, a dry hole drilled recently

ty, the deep Frio sand at 5,800 feet is getting considerable play. The week's drilling saw the completion of one of the largest producers to date from this sand, as well as a failure, defining it on the west. Already the sand has been proven over a large area, and it promises to be the most productive horizon of the several which now constitute the Saxet field. The Frio sand has shown by far the best body, some tests having found 30 feet or more. The dry hole extension to the Clara Driscoll field, and greatly intensifies the interest of operators in this area. The field was opened last October when Santa Clara Oil Co. No. 1 Driscoll Sevier came in for about 72 bbls. per hour from sand at 3,807-16 feet. The same operators immediately drilled a west offset to the discovery well, but failed to obtain a commercial producer. Early in January A. E. Masterson drilled No. 1 Eschberger about 2 miles northeast of the field and also failed, finding no shows. Interest in the area then dropped completely until recently when the Killam test started. The high pressures and large flow of oil in the blowout greatly enhance the outlook for the field, and further development is expected shortly.

Saxet Field

In the Saxet field of Nueces County, the deep Frio sand at 5,800 feet is getting considerable play. The week's drilling saw the completion of one of the largest producers to date from this sand, as well as a failure, defining it on the west. Already the sand has been proven over a large area, and it promises to be the most productive horizon of the several which now constitute the Saxet field. The Frio sand has shown by far the best body, some tests having found 30 feet or more. The dry hole was a workover being drilled by the Coastland Oil Co. and Keystone Royalties. It was the old Rich & Thomas No. 1 Page Brothers. The outpost tested salt water in the 5,800-foot sand and was abandoned at a total depth of 5,931 feet. A. F. Holliday, who opened the new sand, completed No. 2 Griffith during the week for an estimated 600 bbls. per day, bottomed at 5,840 feet. In addition, Morgan Gulf Oil Co. No. 3 Rand Morgan and Southern Minerals Corp. No. 4 Bliss were brought in producing from the deep sand, and three new producers were added to the 4,400-foot productive horizon and one to the 4,800-foot sand.

Corpus Christi

The Saxet Heights field on the environs of Corpus Christi has ceased to overshadow the Saxet field in drilling activity, but several rigs are active in the field. A total of six producers, some of which were workovers, were brought into production during the week.

To the north in San Patricio County, the Plymouth field is the scene of the usual steady activity, and the Taft field has three tests getting under way. Four wildcats are active in this county. Benedum & Trees Oil Co. No. 2 Welder is coring below 6,840 feet after failing to complete in two sands which showed. The same company's No. 3 Welder, a southwest offset, is approaching these sands.

Interest in the Flour Bluff test, M. F. Hurlburt No. 1 Phillips cooled during the week, as the test started coring ahead. Saturation was cored at sand reported to be 6,625-32 feet, and a drill stem test with fresh water as a cushion showed an odor and taste of gasoline and oil, and more water. In Aransas County, the other wildcat which is due for development is waiting on orders after clearing the hole of pipe which stuck several weeks ago when the test blew out. It is bottomed at 7,501 feet.

Two Fields Partly Defined

Two small fields in Jim Wells and Brooks Counties received setbacks which probably relegates them to the class of small production areas common in Southwest Texas. The Bentonville field was defined on the northwest several days ago when Texon & Lucey No. 1 Dodd missed the sand. The test is coring deeper. Much will be learned about the field as Stanolind Oil & Gas Co. three tests reach the sand. These include a north offset, a west offset and a test several hundred feet to the south of the discovery well.

The Alta Verde field in Brooks County was also set back when Pedernal Oil Co. No. 1 Singer was abandoned dry, having missed the sand at 900 feet.

Laredo District

In the Laredo district the drilling boom resulted in 13 completions in the Loma Novia field, 9 in Seven Sisters, 3 in Lopez and 4 in O'Hern. Several of the smaller fields in Duval County also received new development. Seven Sisters' southwest extension was brought in for 108 bbls. per day in the sand at 2,523-30 feet. The outpost is Atlantic Oil Producing Co. and Darby Petroleum Corp. No. 1-G Welder in Survey 102.

The exploration of the new deep sand found in north Samfordyce field of Hidalgo County continues. Principal development was made in G. W. Wheeler's No. 2 Farias. The test, a north outpost of the field, cored two oil sand bodies with a thin shale break between, and recovered oil and salt water in two drill stem

(Continued on Page 81)

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, June 6.—On the Pekisko Hills structure, south of Turner Valley, Pekisko Co. No. 1, LSD 6, section 6-17-2w5, has resumed from 3,480 feet, after standing over a year. The test started in the Blairmore formation and got tthe Paleozoic lime at 1,065 feet. It faulted back to the Fernie shales at 1,230 feet and reentered the lime at 1,308 feet, continuing 2,172 feet in that formation. Several gas shows were encountered in the lime, with one flow estimated as high as 4,000,000 feet a day. It is planned to make a thorough test of the lower horizons of the lime.

South Turner Valley

In the northwest corner of section 28-18-2w5, Turner Valley Royalties No. 1, LSD 13, is deepening below 6,450 feet after cementing casing 40 feet in the Madison at 6,426 feet. It is expected to be the next test to get production in South Turner Valley, and results will throw considerable light on the possibilities of the west side of the structure.

In section 33-18-2w5, Sterling Royalties No. 3, LSD 13, another west side test, is below 1,918 feet.

Farther south, in section 21-18-2w5, Highwood-Sarcee Oils No. 2, LSD 1, is below 4,959 feet. Sovereign Royalties No. 1 Myers & Wright, LSD 14, same section, has finished pulling casing, leaving the bottom string cemented at 2,333 feet, and is dismantling derrick preparatory to changing to rotary equipment. It will start deepening to the lime some time this month. If offsets Highwood-Sarcee No. 1 producer to the west. Farther south in the same section, Union Drilling Co. No. 2, LSD 7, is working on cellar. It will use rotary outfit from Union-Freehold Oil Corp. No. 1, which it offsets immediately to the west.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is below 5,556 feet.

On the Rickert structure west of Turner Valley, Paramount Oils No. 1, LSD 2, section 28-19-4w5, is below 5,862 feet.

On the Kootenay dome, northwest of Turner Valley, Roxana Petroleums No. 1 is working on derrick and has most of the drilling equipment on the ground. Location is in section 8-24-7w5.

On the Jumping Pound structure west of Calgary, Northwest Co. No. 4 Bow River, LSD 2, section 31-24-4w5, is below 400 feet on a test for shallow oil.

On the Watson structure north and west of Lundbreck, Mar Jon Oil Co. No. 3, LSD 3, section 4-10-2w5, is resuming from 4,570 feet after installing new sand reel. It encountered a coal seam marker at 4,550 feet, similar to that met in the Turner Valley about 300 feet above the Dalhousie sand. On the south end of the same structure, Raven Oils No. 1, LSD 1, section 20-9-2w5, is cleaning out preparatory to resuming from 1,225 feet.

Aldersyde Structure

On the High River-Aldersyde structure east of Turner Valley, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is deepening below 6,743 feet. Farther south and west, Arca Development Corp. No. 1, NW quarter section 24-18-1w5, is below 814 feet.

In the DeWinton area, Wales Petroleums No. 1, Anglesey-Lakeview, LSD 1, section 22-21-1w5, is working on derrick for rotary. Farther north, on the New Valley structure, McLeod Oil Co. No. 1 New Valley, LSD 4, section 6-21-2w5, is below 4,681 feet.

Border Fields

On the Del Bonita structure, south of Lethbridge, Sunshine Oils No. 1, LSD 10, section 19-1-21w4, is moving in rotary equipment. Water and gas lines have been laid to the lease from Terminal Oil Co. No. 1 location in NE quarter section 18-1-21w4, a mile south of Terminal No. 1, is installing new lines and will deepen into the Madison limestone from 5,112 feet.

Indians Refuse Lease

Indians of the Sweet Grass Band in council last week voted against assigning to the Department of Indian Affairs at Ottawa blanket rights to the oil and gas on their reservation near North Battleford, Saskatchewan. The reservation is on a portion of the Eagle Hills structure, which geologists of the federal mines department recently reported as favorable to oil and gas, and efforts have been made by various operators to secure drilling rights on the Indian holdings. The proposed surrender to the Indian department was designed to facilitate the leasing and development. The Indian council claimed protection under a treaty made in 1876 that gave them absolute rights of possession on the reserve.

Simpson Oil Showings

In eastern Saskatchewan, Simpson Oil Co. No. 2, LSD 2, section 11-29-24w2, is below 2,200 feet. In the Colorado shale formation first reported at 1,150 feet, the drill has passed through 200 feet of oil saturation. The showing is an unusual one as the shale is usually too tight-grained for extensive saturation. The crude has a paraffin base. The test is deepening in the hope of getting commercial production.

Lloydminster Deep Test

In the Lloydminster field, western Saskatchewan, shareholders of Colony Oil & Gas Co. of Loydminster have decided to deepen their No. 3, for a thorough test of the lower formations. It has been standing at 1,700 feet, after failing to get commercial production in the gas sand around 1,690 feet where large production was met in the company's two earlier wells. It will be deepened to at least 2,000 feet for a test of the lower horizons.

North Montana Test

Several Calgary companies are financially interested in a test being drilled by Boyd Kyle and associates in section 24-37-1e, on the Bow and Arrow structure in northern Montana. It cemented for water shutoff at contact of a member of the Eagle sand with the Colorado. Location is only 4 miles south of the Alberta boundary and about 15 miles southeast of Coutts, and the results will have considerable bearing on the oil possibilities immediately north of the boundary.

Drilling in Ontario

In the Eden field, Elgin County, Ontario, Olga Gas No. 3, Claude A. Wilson farm, Lot 24, Concession 8, Bayham Township, finished at 1,365 feet with a sweet gas flow of 200,000 feet a day. It is being connected with the main line of the Dominion Natural Gas Co., which is taking the production.

In the Brownsville field, Oxford County, Childs' No. 1, Lot 21, Concession 12, Dereham Township, is below 1,150 feet and will deepen to the Clinton and White Medina formations after failing to get commercial production in the Guelph-Niagara. Smith No. 1, Lot 2, Concession 12, is below 306 feet, with Basil Sunday as contractor. Aloka Oil & Gas Co. No. 4 has been spotted in Lot 23, Concession 12, about 1,000 feet east and a little south of No. 3 which finished recently with about 2,300,000 feet a day. Outfit is being moved from No. 3.

In the Dawn field, Lambton County, Gubb & Russell No. 3, Lot 22, Concession 3, Dawn Township, is being shot in the gas pay around 1,655 feet with 50 quarts. Perdue Syndicate No. 1, Barnes farm, Lot 25, Concession 7, is below 1,000 feet.

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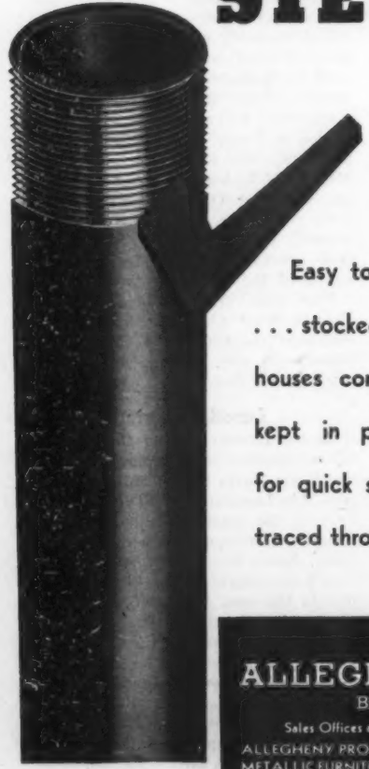

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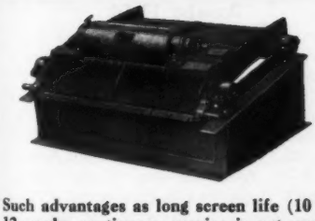

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Among Gulf Coast Drilling Contractors

H. J. DeArman is drilling below 3,000 feet on his No. 1 First National Bank, an outpost test located northeast of the Amelia field in Jefferson County and he has one rig running at Corpus Christi for Sinclair Prairie Oil Co.

C & C Drilling Co. extended the Ace field a half a mile southeast and opened up the first oil production for the field when he completed Dick Schwab No. 1-A Kirby Lumber Co. for an oil well at a total depth of 4,816 feet. The rig is being moved 660 feet north for No. 2-A Kirby Lumber Co., which will be drilled for the same operator.

Edwards Drilling Co. is running 7-inch casing on Kenben Oil Co. No. 1 Maco Stewart at the Dickinson field in Galveston County, which is bottomed at 8,669 feet and has abandoned David B. McDaniel No. 1 Nona Mills in Hardin County at 8,089 feet. The rig is being moved to the Pickett Ridge field in Wharton County.

Cron and Gracey have nine active rigs located as follows: One at Roanoke for Shell Petroleum Corp., one at Manvel for Texas Co., one at Damon Mound and Barbers Hill for Sinclair Prairie Oil Co., one at West Columbia for Texas Co., two at South Houston for Stanolind Oil & Gas Co. and two at Placedo for the Barnsdall Oil Co.

Glenn H. McCarthy is rigging up No. 1 Kilgore at Cotton Lake in Chambers County; is drilling below 3,300 feet on No. 1 Langham at Amelia in Jefferson County and has one rig running at Anahuac for Humble Oil & Refining Co.

Nicklos Drilling Co. is preparing to complete two wells at the Tepetate field for Continental Oil Co. after cementing 5¾-inch casing. No. 2-A Welch is bottomed in sand at 8,315 feet and No. 3-A Homeseekers is bottomed at 8,320 feet. Another active rig is located at the Port Barre field in St. Landry Parish for the Pan American Production Co.

Rutherford Drilling Co. completed No. 1 Rugelsey at Van Vleck for the Skelly Oil Co. and is rigging up on No. 1 Moore. In the meantime, progress is being made on three other tests in the field. They are No. 8-A Cobb, 7-A Cobb and No. 1 Langham. No. 8 Seabury, being drilled for the same company at Samfordyce, has been completed and the rig will be moved to another location.

Rowan Drilling Co. is preparing to test Amerada Petroleum Corp. and others No. 1 Dopslauf at the Satsuma area in Harris County after perforating the 7-inch casing which was set at 6,866 feet.

Smith & McDannald have spudded in Tide Water Oil Co.'s wildcat in Orange County; are preparing to test a wildcat in Zavalla County for the Bay Oil Corp.; have completed No. 1 Cochran at Louise for Pure Oil Co. and have eight other rigs located as follows: One at St. Martinsville for Continental Oil Co., two at Long Lake for Texas Co. and Tide Water Oil Co., one at Hastings for Stanolind Oil & Gas Co., two at South Houston for Stanolind Oil & Gas Co. and themselves, one at Jennings for Shell Petroleum Corp. and one in Wharton County for themselves.

Noble Drilling Co. has two rigs running on geophysical prospects in Calcasieu Parish for Stanolind Oil & Gas Co. and Strake Oil Corp., while on the Texas Coast work is being done on two tests for the same companies at Turtle Bay in Chambers County and in Brazoria County.

Al Buchanan of San Antonio continues to keep 14 rigs active in Southwest Texas counties. In San Patricio, his crews are drilling for the Plymouth Oil Co. and Benedum & Trees. For the latter operators, No. 2 Welder, a wildcat, is coring below 6,840 feet. Southwest of this test, the same company's No. 3 Welder is 3,560 feet deep and approaching the sands which showed oil in No. 2. The re-

(Continued on Page 86)

Cron & Gracey's day tour taken on a well at the South Houston field which is being drilled for Stanolind Oil & Gas Co. Standing, left to right: Bill Crumpler, Driller L. Mosier; Dave Bible, G. H. Kellsby, O. F. Carpenter and Artie Moore

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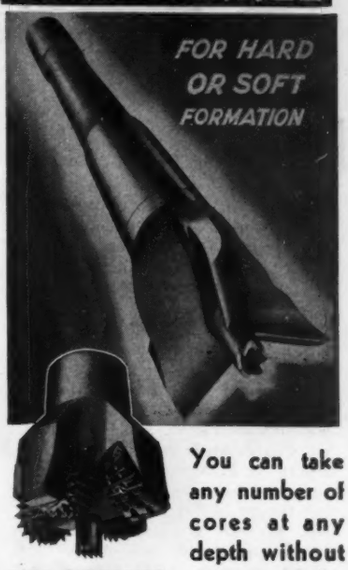

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Texas and Louisiana Gulf

By
F. L. SINGLETON

HIGH GRAVITY OIL WELL IN NEW FIELD IN POLK COUNTY

HOUSTON, Tex., June 8.—Opening up the first oil production for the Ace field in southern Polk County and the prospects of a new field at the Greens Lake prospect, Galveston County, were the most interesting developments along the Gulf Coast the past week.

The Ace field, which was proven for distillate production in 1933 by the completion of Dick Schwab No. 2 Kirby and West Lumber Co. was converted into an oil field when the same operator's No. 1-A Kirby Lumber Co., located a half mile southeast in the P. A. Sublett Survey, was completed at a total depth of 4,816 feet for an initial production of 349 bbls. of 40.5 gravity oil per day through a quarter-inch choke, with tubing pressure 1,225 pounds and casing pressure 1,465 pounds. The hole is bottomed in Cockfield sand topped at 4,805 feet and is producing through perforated casing from 4,806-13 feet.

Shortly after the field was discovered, which followed that of the Livingston field located approximately 6 miles northeast this area received quite a play with no less than five tests drilled. They were located to the east, west and southwest and all tested the Cockfield section and were abandoned after encountering minor showings. Some geologists are of the opinion that the best part of the field will be found to the north of the distillate well, while others believe it to be south and southeast. The area is divided into many ownerships and although indications point to an extensive drilling campaign, actual development will probably be held up to some extent, as many of the leases are tied up in litigation. The only new activity announced other than Turnbull & Irwin No. 1 Davis, location of which was given last week, is Dick Schwab No. 2 Kirby Lumber Co., located 660 feet north of his new well.

Surprise at Green Lake

The biggest surprise of the week took place at the Green Lake prospect, southwestern Galveston County, where Sun Oil Co. No. 1 J. D. Hughes, located in the W. C. M. Baker Survey, flowed oil, gas and salt water from sand bottomed at 2,620 feet. This test, which is one of the deepest tests ever drilled on the Texas Gulf Coast, was carried on some reports as being abandoned at a depth of 9,612 feet, after part of the hole was lost due to heaving shale. The operators cemented the hole back and made a squeeze out cement job from 3,750-85 feet. The cement was then milled down to 3,700 feet and the 9⅝-inch casing, cemented at 8,600 feet, was perforated with 20 holes at 3,610-20 feet. A drill stem test was made and in 20 minutes the well started flowing oil, salt water, sand and mud. On a 14-hour gauge ending at 7 a.m. June 5, with the drill stem still in the hole, it flowed an estimated 220 bbls. of fluid through a three-eighths inch choke, of which 35 per cent was salt water and 65 per cent oil, with working pressure 450 pounds. Gravity of the oil tested 25.84.

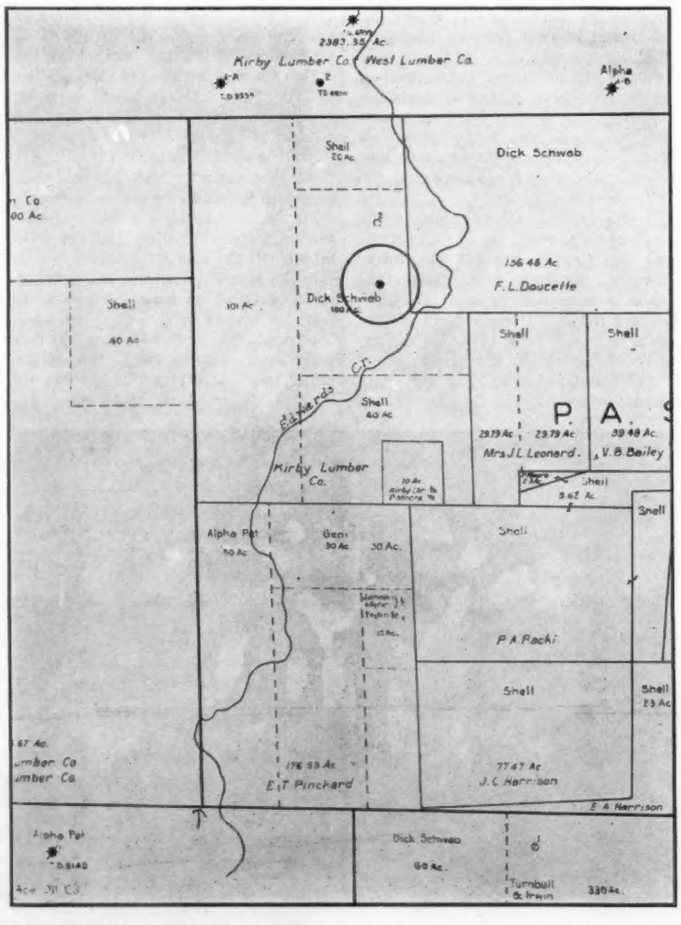
The well was tested on the strength of an electrical coring test and is believed to be producing from the Basal Pliocene or the top of the Miocene. The Discorbis was topped at 7,232 feet, Heterostegina at 8,510 feet, round Marginulina at 8,784 feet, and flat Marginulina at 9,183 feet. The operators will continue to flow the well for two days in an attempt to locate the source of the salt water and will then make another squeeze-out cement job.

New Pool in Harris

A new producing area for Harris County was opened by the completion of Amerada Petroleum Corp. and others No. 1 Dopslauf on the Satsuma prospect in the W.C.R.R. Survey. On a 16-hour gauge through a 13/64-inch choke, it flowed 4 bbls. per hour of 45-gravity oil, with tubing pressure 2,350 pounds and casing pressure 2,450 pounds. Production is from the Cockfield section at 6,829-33 feet.

Jefferson County

Much interest is centered on the Cheeks prospect, Jefferson County, due to an attempted blowout at Magnolia Petroleum Co. No. 1 Funchess, which occurred in sand from 8,818-21 feet. The hole is bottomed at 8,846 feet and the operators are attempting to run an electrical coring test. At 8,700 feet, the gas began to cut the drilling mud, and several cores taken below that depth are reported to have carried oil stains. The well is located about 4½ miles southwest of the Amelia field and is reported to be in the Vicksburg horizon, which is over 2,000 feet deeper than the wells in the Amelia field that are producing from the Frio horizon. Location is in section 16, H.T.&B. Survey.



Map of the Ace field, Polk County, showing location of Dick Schwab No. 1-A Kirby Lumber Co. which opened up the first oil production for the field and dry holes drilled in the area

(Map by W. W. Zingery, Second National Bank Building, Houston, Tex.)

Production by Pool

Following is the daily average production of the principal Gulf Coast fields for the week ending June 6:

TEXAS COAST

Field—	Dy. ave. prod.
Anahuac	8,237
Barbers Hill	16,534
Conroe	45,735
Hastings	7,232
Manvel	9,531
Mykawa	3,410
South Houston	2,537
Thompson	9,427
Tomball	7,560
Greta	16,211
Plymouth	9,635
Saxet	10,220
Saxet Heights	7,430
Miscellaneous	28,731
Total	182,430

LOUISIANA COAST

Bosco	12,812
Caillou Island	13,679
Cameron Meadows	5,430
East Hackberry	8,279
Gillis	15,937
Iowa	18,530
Lake Barre	10,738
Leesville	15,530
Roanoke	7,237
Sulphur	4,632
Tepetate	3,921
Miscellaneous	33,295
Total	149,930
Total Gulf Coast	332,360

Amelia Field

In the Amelia field, Humble Oil & Refining Co. recompleted No. 1 Pinchback for an initial production of 30 bbls. per hour through a quarter-inch choke with tubing pressure 1,025 pounds and casing pressure 1,025 pounds. It was originally completed at 6,768 feet, but due to the high gas-oil ratio was deepened to 6,772 feet. Same company's No. 2 Guinn, located to the south, was completed at 6,773 feet and flowed 386 bbls. per day through a quarter-inch choke, with tubing pressure 1,200 pounds and casing pressure 2,075 pounds, and is being killed to drill deeper in an attempt to lower the gas-oil ratio. The rig will be moved to location for No. 3 Guinn, 993 feet north of No. 1 in the C. Williams Survey.

Humble Oil & Refining Co. is rigging up for a second test at the Heyser field (Green Lake) in Calhoun County. It is No. 2 Welder, located 520 feet out of the northwest corner of the Jose Maria Rios Survey, or approximately 6,150 feet west and a little south of the discovery well. The discovery well was drilled 1 foot deeper to 5,475 feet and flowed 6 bbls. per hour through a quarter-inch choke, with tubing pressure 600 pounds and casing pressure 950 pounds.

Stanolind Oil & Gas Co.'s fourth well at the Turtle Bay field, Chambers County, has also proved to be discouraging It is No. 2 State and when completed at a depth of 6,617 feet it flowed 8 bbls. of fluid per hour of which 40 per cent was salt water with no pressure and the operators are now pulling tubing to install flow valves after the well went dead. The company's No. 2 Middleton has also gone dead and is being deepened.

One completion and three locations were recorded for the South Houston field, Harris County. Stanolind Oil & Gas Co. district No. 23 was completed at 4,775 feet and flowed 471 bbls. and in 24 hours through a quarter-inch choke. Two of the locations were made by Stanolind, No. 4 Howard in tract No. 30 and No. 1 Minnie Barrett in Lot 147, while the other was made by Smith & McDannald for No. 1 Merrideth. All are on the west side of the field in the H.&T.B. Survey No. 6.

East of the Withers field, southern Wharton County, Texas Co. has apparently a third oil pool in the making due to the showing made by its No. 1-B Pierce, which tested 700 pounds of working pressure and 2 gallons of distillate-cut drilling mud on a 10-minute drill stem test from 5,510-20 feet. The hole is bottomed at 5,537 feet and the operators are reaming to run 7-inch casing. The hole was originally drilled to a depth of 6,511 feet and was plugged back, sidetracked and redrilled to its present depth. If productive it will be the third field to be opened in the county within recent months by the company. The other two fields are Withers and Pickett Ridge.

To the north in the Pickett Ridge field, Crown Central Oil Co. No. 1 J. J. Rod, in the north extension area, was completed at 4,608 feet and flowed 212 bbls. of fluid per day through a quarter-inch choke, of which 30 per cent was salt water. Tubing pressure was 160 pounds and casing pressure 1,325 pounds. It is a south offset to Texas Co. No. 1 Marek that was completed for a small well several weeks ago. The showing of these two wells, together with the abandonment of Texas Co. No. 2 Marek, located to the northwest, apparently defines production in this direction. West of production, Adrian Moore No. 1 W. P. Wilbeck was tested from 4,685-4,703 feet and on a 15-minute drill stem test it showed some oil and 850 pounds of pressure. It is located in the J. Telefener Survey.

Five New Tests

With no less than five wildcats scheduled to get under way in the near future, Wharton County and the adjoining county of Matagorda are becoming the most active areas on the Gulf Coast. In the Blue Basin area, southern Wharton County, where Pure Oil Co. has just abandoned a deep test, the company has announced location for two more deep tests, both of which will be drilled simultaneously. To the west, in the Magnet area, Atlantic Oil & Production Co. and Continental Oil Co. are expected to announce location for two wells within the next few weeks, while to the north in the Castleman Survey Cockburn Oil Co. is planning to drill a test on the Hawes lease. To the south in the Midfield area, Matagorda County, Marathon Oil Co. is moving in material for an 8,000-foot test to be drilled on the Kountze property in the I.&G.N. Survey. With the two wildcats now being drilled by Smith & McDannald on the Lake View prospect and Sterling Oil & Refining Co. test in the East Bernard area, Wharton County, a total of seven tests will be drilling within a radius of approximately 30 miles.

New Salt Dome

Another salt dome was added to the list in Coastal Louisiana when Shell Petroleum Corp. No. 1 Colonial Sugar, a wildcat test located on the Convent Prospect, southern St. James Parish, just north of the Mississippi River, topped the salt at 7,492 feet and is now shut down in salt at a depth of 7,522 feet. This is the first test drilled and numerous showings of oil and gas have been encountered. The company is running a geophone survey and it will be several days before a decision is made as to whether the hole will be deepened or abandoned. The well is located in section 5-12s-5e, approximately 12 miles southwest of the Sorrento dome in Ascension Parish.

Herton Oil Co. No. 3 Banta, located 960 feet west of the company's No. 1 Roanes, the discovery well of the Jeanerette field in St. Mary Parish, failed to encounter the 7,400-foot sand and is drilling ahead below 8,400 feet. This is the second well to miss the pay, the other having been No. 1 Car-

(Continued on Page 81)

Gulf Coast Water Shipments—April

	Crude		Refined		
	Coastwise	Export	Coastwise	Export	Total
Atlantic P. L. Co.:					
Atreco	1,464,371.59	.....	5,527.76	.....	1,469,899.35
Texas City	219,827.57	.....	3,955.34	.....	223,782.91
Harbor Island	677,811.50	.....	.....	.....	677,811.50
Coastal Refineries*:					
Port Isabel	106,871.62	.....	51,379.39	.....	158,251.01
Gulf Oil Corp.:					
Port Arthur	437,689.61	.....	2,976,370.40	.....	3,414,060.01
Humble Oil & Ref. Co.:					
Baytown	291,863.87	175,937.29	2,640,408.57	347,907.01	3,456,116.74
Harbor Island	1,768,204.39	119,914.02	.....	.....	1,888,118.41
Texas City	420,578.01	.....	.....	.....	420,578.01
Ingleside	32,108.27	.....	.....	.....	32,108.27
Magnolia Pet. Co.*:					
Beaumont	1,111,787.49	.....	2,511,238.36	.....	3,623,025.85
Pure Oil Co.:					
Smiths Bluff	461,079.00	.....	847,475.00	.....	1,308,554.00
Shell Pet. Corp.:					
Houston	269,148.00	76,478.00	1,115,855.00	299,852.00	1,761,333.00
Norco	.....	.....	179,294.00	.....	179,294.00
Standard Oil Co. of La.:					
Baton Rouge	114,811.00	.....	1,311,647.00	148,653.00	1,575,111.00
Sun Pipe Line Co.:					
Sabine Pass, Sun	1,328,594.38	.....	.....	.....	1,328,594.38
Texas Co.:					
Port Arthur	1,493,215.00	251,207.00	2,488,559.00	1,098,139.00	5,331,120.00
Miscellaneous	2,226,061.83	178,920.61	864,884.68	293,543.64	3,563,410.76
Total April	12,424,023.13	802,456.92	14,996,594.50	2,188,094.65	30,411,169.20
Total March	11,467,974.27	601,632.39	17,298,651.84	1,514,724.54	30,882,893.04
Difference	956,048.86	200,824.53	2,301,967.34	673,370.11	471,723.84

*No distinction made between coastwise and export shipments.

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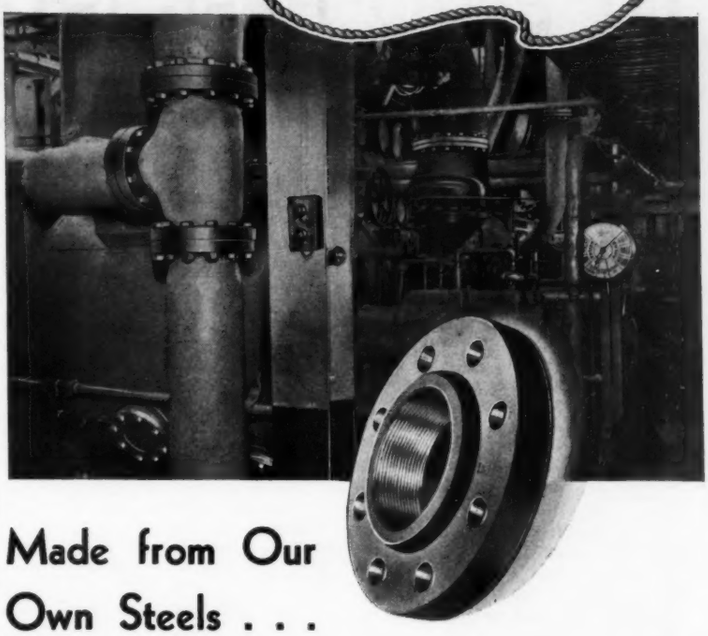

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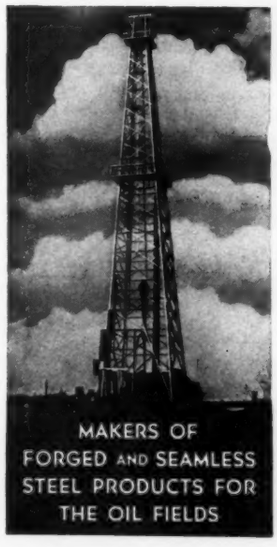

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North Louisiana, Arkansas

LARGEST TRINITY SAND GAS WELL WITH 54 GRAVITY OIL

By
MITCHELL TUCKER

SHREVEPORT, La., June 8.—The test of one of the largest Trinity gas wells ever completed in Northern Louisiana, blowing approximately 80,000,000 to 100,000,000 feet, and making considerable distillate and crude oil of a definite paraffin base, headed the list of interesting wildcats in this area in the past week. This was J. P. Evans No. 1 Crichton in section 35-18-9, Webster Parish, which has proven the presense of oil in this territory and opened up adjacent tracts for immediate drilling.

Approximately 1,000 interested spectators witnessed the opening of this well on June 2. The flares from the well could be seen and heard for many miles.

An accurate measurement of the gas was impossible as the gauge installed on the line had only a capacity of 70,000,000 feet, but conservative estimates ran from 80,000,000 to 100,000,000 feet. The well produced 10 to 15 bbls. of amber colored distillate per hour. Casing pressure was 1,500 feet when being flowed through 2½-inch tubing.

Of special interest in so far as future oil-producing possibilities of this area are concerned was the chemical test made of the distillate in Shreveport the following day. Test showed this to be a 54-degree gravity distillate oil, of a paraffin base. On a break-down test it yielded 65 per cent gasoline, 28 per cent kerosene, 6 per cent lube oil and 1 per cent loss.

Present total depth of the well is 5,589 feet, having been deepened from 5,532 feet after gauging 7,000,000 feet of gas. The bottom 35 feet of sand penetrated was highly saturated. Schlumberger tests showed this section to have a porosity of 80 millivolts and a resistivity of 43 ohms. This is the highest ever recorded on an electric log from the Glenn Rose formation, even in the Rodessa area. The lower 35 feet has been correlated with the Gloyd sand at Rodessa.

Considerable drilling activity is expected to follow soon in this immediate area, as there are seven short-term leases nearby, all expiring September 6. Holders of these leases are Phillips Petroleum Co., Amerada Petroleum Corp., J. K. Wadley, Federal Petroleum Co. and the Arkansas-Louisiana Gas Co.

Operators expect that additional necessary drilling will more clearly define the limits of the pool, and eventually find the points of major oil accumulation.

The Tide Water block of about 7,500 acres, 6 miles to the northwest of this well, is expected to be tested some time this summer. It is regarded to have considerable merit.

Deep Well Produces Gas

The deepest well in northern Louisiana or Arkansas created excitement on June 6 when it blew in as a large gas-distillate producer when it penetrated the lower marine Trinity pay at 8,100 feet.

Ohio Oil Co. No. 6 Holloway, situated in section 23-21-10, on the flank of the old Cotton Valley pool, indicated a daily volume of 25,000,000 feet of wet gas during a seven-minute test after drilling 30 feet of sand from 8,100 to 8,140 feet. No accurate measure of distillate was obtained, and the report that the well made some oil was denied by the operators.

The formation from which the gas is coming is believed to be the lower member of the marine Trinity. The well was drilled for a test of what was presumed to be the lower Cretaceous high of the field. The Cotton Valley pool has produced a highly saturated gas from Oolitic lime of the Glen Rose at an average depth of 4,500 feet for several years. Originally it was planned to drill this exploratory test to 10,000 feet, and it is reported that if commercial production is not obtained within the next 200 or 300 feet, operators will resume drilling to that depth.

Local oil men regard this test as very important, especially with regard to future deep drilling in northern Louisiana and Arkansas.

Estimated Production

Estimated daily gross production all companies in the week ending June 6:

NORTH LOUISIANA

Bellevue	470
Caddo light	4,090
Caddo heavy	2,505
Converse	1,020
Cotton Valley	400
DeSoto and Red River	1,300
Elm Grove	480
Haynesville	3,405
Holly	140
Homer	2,590
Pleasant Hill	160
Rodessa	58,200
Sarepta-Cartervile	420
Urania	2,740
Zwolle	1,100
Total	79,020

SOUTH ARKANSAS

Champagnolle	2,985
El Dorado	2,150
Lisbon	295
Miller County	1,040
Nevada	865
Smackover light	2,200
Smackover heavy	17,870
Stephens	585
Urbana	1,890
Total	29,880

Texas side Rodessa field—4,375 bbls. daily.

Western Caddo Parish

Operators are still undecided as to the source of salt water which has shown in the Pyramid Oil & Gas Co. (Belchie & Laskey) and United Gas No. 1-A S. R. Wheeler deep test in western Caddo Parish. This well has been plugged back from its original total depth of 5,210 feet, where salt water made its first appearance. It was thought that possibly this water was coming from an upper formation, and the well was plugged back and tested at 4,842 feet, with salt water still in evidence. It is now planned to plug back to a higher level in an effort to shut off the water and locate the point of oil saturation as indicated by previous cores.

Union Parish

The L. S. Boscher-George No. 1, section 27-21-1e, Union Parish, has been shut down for orders at a depth of 4,500 feet, after obtaining an unfavorable Schlumberger test at this depth. Negotiations are now under way to carry the well to the Permian zone at an approximate depth of 7,500 feet.

Caddo Parish—Rodessa

Fourteen completions were recorded in the general Rodessa area during the past week, eight on the Louisiana side and six on the Cass County, Texas, side. Sixteen Louisiana wells are rapidly approaching the stage of completion, as compared with three in Cass County.

The new locations of greatest interest were the three staked for immediate drilling within the townsite of Rodessa, two of which are in the same block. Impending possibility of drilling in the streets and alleys of Rodessa further clouds this undesirable situation.

Rodessa Completions

The Arkansas-Louisiana Gas Co. No. 16 Rodessa O. & L. Co., C SE NE section 22-23-16, was completed at a total depth of 6,012 feet, elevation 234 feet, flowing 27 bbls. per hour through one-quarter inch tubing choke. Tubing pressure measured 450 pounds, casing pressure 700 pounds.

Phillips Petroleum Co. No. 1 Adams flowed 17 bbls. per hour through three-quarters-inch tubing choke. Topped saturation at 6,032 feet, the Young section at 6,036 feet, and was bottomed at 6,055 feet, elevation 277 feet. Location is 652 feet south and 1,080 feet east of the NW cor. of section 17-23-15.

Haynes Production Co. No. 4 Caldwell, C NW SW SE section 12-23-16, flowed 31 bbls. per hour through 1¾-inch tubing choke, at a depth of 6,034 feet, elevation 263 feet. The 7-inch casing was cemented at 5,866 feet. Dees formation was topped at 6,012 feet, and the Young at 6,031 feet, which the point of first saturation; tubing pressure 90 pounds and casing pressure of 250 pounds.

Haynes Production Co. No. 16 Lawton, C SW SW NW section 14-23-16, total depth 5,997 feet, elevation 225 feet, for a flow of 55 bbls. per hour through 1¾-inch tubing choke. Five feet of saturation was encountered from 5,992 feet to 5,997 feet, tubing pressure of 62 pounds and casing pressure of 250 pounds.

United Gas No. 3 Brewer Unit, 655 feet north and 656 feet east of SW cor. of section 21-23-16, total depth 5,977 feet, elevation 197 feet. Flowed 43 bbls. per hour through one-half inch tubing choke. The 7-inch casing was cemented at 5,949 feet.

United Gas No. 6 M. L. Pitts. NE SW SE section 13-23-16, total depth 6,040 feet, elevation 259 feet, with a flow of 21 bbls. per hour through one-quarter inch tubing choke. Casing pressure of 440 pounds and tubing pressure of 600 pounds was recorded. The bottom 45 feet of sand was saturated.

At a total depth of 6,016 feet, elevation 235 feet, United Gas No. 3 Thomas Unit, Block 5, Rodessa townsite, section 23-23-16, was completed by a flowing test of 19 bbls. per hour through one-half inch tubing choke. The casing had previously been perforated from 5,991 feet to 6,016 feet by 60 shots, and the formation acidized with 1,500 gallons. Saturation was first encountered at 5,960 feet. Tubing pressure of 1,050 pounds and casing pressure of 1,500 pounds was shown.

United Gas Public Service Co. No. 5 Thomas Unit, located in NW SE NW of section 23-23-16, total depth of 6,033 feet, elevation 239 feet, for a flow of 21 bbls. per hour through one-quarter inch tubing choke. Saturation was topped at 5,965 feet.

Cass County, Texas

McIlvane and others No. 1 Beckett, J. Collum Survey, was completed with a flowing initial of 43 bbls. per hour through one-half inch tubing choke. First saturation was encountered at 5,892 feet and the well bottomed at 6,008 feet, elevation 235 feet.

Magnolia (R. W. Norton) No. 2 Haywood, P. Evans Survey, flowed 520 bbls. in 16 hours through one-half inch tubing choke, tubing pressure 700 pounds, casing pressure 300 pounds. Dees formation was topped at 5,996 feet, 14 feet of Gloyd sand was drilled from 5,899 feet to 5,913 feet, and the well was completed at a depth of 6,049 feet, elevation 259 feet.

The Texas Co. No. 1 E. E. Hall, J. Young Survey, flowed 70 bbls. initially through 1-inch casing choke. The Dees was topped at 6,045 feet, the Young at 6,082 feet where saturation first appeared, and the well was completed at 6,115 feet, total depth, elevation 298 feet.

United Gas Public Service Co. No. 1 Eva Fields and others, J. Collum Survey, encountered saturation at 5,986 feet and was completed at a depth of 6,034 feet, elevation 254 feet. Hill sand was topped at 5,737 feet, Gloyd at 5,845 feet and the Dees at 5,986 feet. Initially the well pro-

(Continued on Page 86)

Rocky Mountain Area

By
T. R. INGRAM

ENGINEERS STUDY PLANS TO REPRESSURE IN SALT CREEK

DENVER, Colo., June 8.—The Indian Territory deep test in eastern Colorado had a good show of gas at 1,500 feet. South Park Oil Co.'s discovery well in the Hartsel district, continues to swab 50 bbls. per day while lowering casing to shut off the sand.

Engineers are studying the feasibility of piping gas from the Big Horn Basin in Wyoming to repressure the Salt Creek field and unitize the area. The Continental Oil Co. completed a 2,000-bbl. well in Lance Creek in its No. 6 Rohlff.

Montana production showed a gain and consumption showed a decrease in April. Three wells were completed in Cut Bank, the best being Nadeau Brothers No. 5 Farmers State Bank for 310 bbls.

The Continental Oil Co. No. 53 Tribal, on the Rattlesnake dome in northwestern New Mexico, found water in the Dakota and was abandoned.

NEW MEXICO

The biggest producer completed in New Mexico during the week was the Amerada Petroleum Corp. No. 1 Lambert, NW NW NE section 6-20-37, in the Monument district. It flowed 2,544 bbls. of oil naturally in 24 hours, through tubing. Gas measured 2,225,000 feet. Oil pay was topped at 3,800 feet; total depth, 3,890 feet. Same operators No. 1 State "R," C NE SW section 29-19-37, flowed 656 bbls. through 1-inch tubing choke in the first 24 hours after acidizing and was completed at 3,945 feet, total depth. Top of oil pay was 3,881 feet. Gas volume gauged 6,900,000 feet Amerada Petroleum Corp.'s third completion of the week in the Monument field was at No. 3 State "O," C SE NE section 30-19-37. It had oil pay at 3,864 to 3,954 feet, total depth, and had natural flow of 648 bbls. through 1-inch tubing choke in 24 hours, with 371,000 feet of gas.

The second largest producer of the week was the Atlantic Oil Producing Co. No. 1 State "K," C SE SW section 6-21-36, in the Eunice field. It had a natural flow of 2,400 bbls. of oil through tubing in 24 hours, with 2,000,000 feet of gas. The pay horizon was topped at 3,798 feet; total depth, 3,886 feet. Humble Oil & Refining Co. No. 5 Adkins, C SE SW section 10-21-36, flowed 960 bbls. through tubing in 24 hours, naturally and produced 768,000 feet of gas. It was completed at 3,865 feet, total depth. Top of the pay horizon was 3,771 feet. Gulf Oil Corp. No. 1 Janda "C," C NW SW section 15-21-36, had natural flow of 670 bbls. of oil through tubing in 24 hours and was completed at 3,892 feet, total depth. Gas volume was 1,475,000 feet. Top of oil pay was 3,790 feet. Same operators No. 1 Arnott-Ramsey "D," C NW NW section 33-21-36, had oil pay at 3,845 to 3,885 feet, total depth. After acidizing, it flowed 27 bbls. of oil and 6 bbls. of water in 24 hours on gas-lift and was completed.

In the Hobbs area, Continental Oil Co. No. 3-B-13 State, C NE SW section 13-18-37, drilled to 4,245 feet, total depth, encountered sulfur water and plugged back to 3,886 feet. Casing was perforated and it swabbed a small amount of oil, but was abandoned.

Plains Production Co. No. 1 George Smith, C SE SE section 4-25-37, in the Jal sand area, was abandoned at 3,750 feet, total depth. It had several showings of oil and gas and at 3,463 feet tested 4,000,000 feet of gas.

In the Grayburg area of Eddy County, D. & B. Oil Co. No. 1 Jenkins, NW SW NW section 20-17-30, was acidized and flowed 178 bbls. through tubing in 24 hours. Gas was estimated at 2,000,000 feet. It flowed at the rate of 100 bbls. daily before acidizing. Oil pay was had at 3,118 to 3,258 feet, total depth.

Eunice Area

Gulf Oil Corp. No. 8 Bell-Ramsey-State, C NW NW sec. 4-21-36. T.D. 3,870 ft.; flowed 25 bbls. dly. after acidizing; swabbing.

Gulf Oil Corp. No. 6 Arnott-Ramsey "C," C NE NW sec. 21-21-36. T.D. 3,911 ft.; est. 20 to 25 bbls. per hour.

Empire G. & F. Co. No. 1 State "D," C SE NE sec. 32-21-36, five-eighths mile N part of No. 157 lease. T.D. 3,941 ft.; acidized; waiting.

Gulf Oil Corp. No. 2 Janda "B," C NE SE sec. 32-21-36. T.D. 3,880 ft. in lime; drlg. plug.

Continental Oil Co. No. 1-B-14 Lockhart, C SW NW sec. 14-21-36. T.D. 3,720 ft.; set 5½-in. csg.

General Crude Oil Co. No. 2 State "E," C NE SW sec. 32-21-36. T.D. 3,765 ft.; set 5 3/16-in. csg.

Devonian Oil Co. No. 4 State-Heasley, C SW SW sec. 5-21-36. T.D. 3,875 ft.; acidized; flowed 1¾ bbls. per hour; to re-acidize.

Shell Pet. Corp. No. 1 State "J," C SE SW sec. 32-20-37. Drlg. 3,785 ft.

Gulf Oil Corp. No. 9 Bell-Ramsey, C SW SW sec. 4-21-36. T.D. 3,611 ft.; fsg.

Gulf Oil Corp. No. 4 Orcutt, C SE NE sec. 6-21-36. Drlg. 3,420 ft.

Gulf Oil Corp. No. 7 Arnott-Ramsey "C," C NW NE sec. 21-21-36. Drlg. 3,298 ft.

Continental Oil Co. No. 6-A-18 Meyer, C NW NE sec. 18-21-36. Drlg. 2,610 ft.

Continental Oil Co. No. 9-B-4 Meyer, C NE NW sec. 4-21-36. Drlg. 3,865 ft.

Continental Oil Co. No. 10-B-4 Meyer, C NE NE sec. 4-21-36. T.D. 3,754 ft.; set 5½-in. csg.

Continental Oil Co. No. 11-B-4 Meyer, C SE SE sec. 4-21-36. Loc.

Samedan Oil Co. No. 1 Marshall, C SW NW sec. 12-21-36. Drlg. 3,252 ft.

Continental Oil Co. No. 5-A-18 Lockhart, SE SE SW sec. 18-21-36. T.D. 1,430 ft.; set 7⅝-in. csg.

Continental Oil Co. No. 2-B-18 Meyer, C NE NW sec. 18-21-36. T.D. 3,934 ft.; flowed 225 bbls. per hour between drill pipe and csg.

Tide Water Oil Co. No. 1 State "G," C SE NE sec. 21-21-36. Drlg. 3,518 ft.

Landreth Prod. Co. and Ohio Fuel Supply Co. No. 1 State "E," C SW NW sec. 22-21-36. T.D. 3,830 ft.; set 7-in. csg.

Texas Co. No. 2 State Aggies, C SW SE sec. 31-20-37. Drlg. 2,850 ft.

Humble Oil & Ref. Co. No. 1 State Aggies, C SE SW sec. 31-20-37. Drlg. 3,055 ft.

Continental Oil Co. No. 12-B-4 Meyer, C SE SW sec. 4-21-36. Drlg. 2,517 ft.

Devonian Oil Co. No. 5 State-Heasley, C NW SW sec. 5-21-36. Cellar and pits.

Devonian Oil Co. No. 6 State-Heasley, C NE SW sec. 5-21-36. Loc.

Humble Oil & Ref. Co. No. 2 Knox, C SW SE sec. 10-21-36. R.U.R.

Gulf Oil Corp. No. 2 Collins, C NE NW sec. 14-21-36. Rig.

Humble Oil & Ref. Co. No. 2 State-Aggies, C SW SW sec. 31-20-37. Cellar.

Gulf Oil Corp. No. 10 Bell-Ramsey-State, C NW SW sec. 4-21-36. Rig.

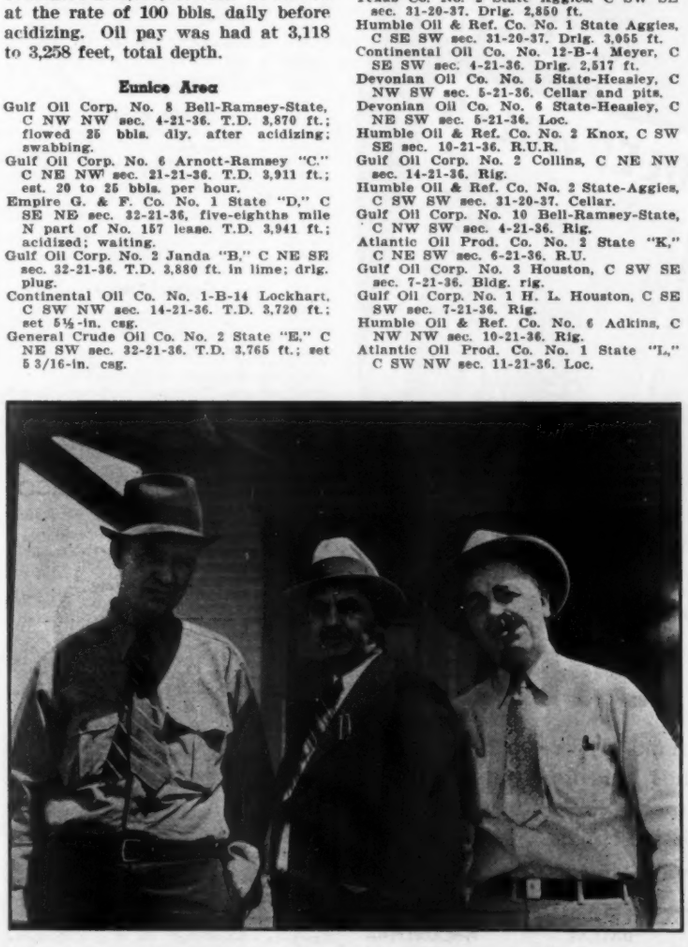
Atlantic Oil Prod. Co. No. 2 State "K," C NE SW sec. 6-21-36. R.U.

Gulf Oil Corp. No. 3 Houston, C SW SE sec. 7-21-36. Bldg. rig.

Gulf Oil Corp. No. 1 H. L. Houston, C SE SW sec. 7-21-36. Rig.

Humble Oil & Ref. Co. No. 6 Adkins, C NW NW sec. 10-21-36. Rig.

Atlantic Oil Prod. Co. No. 1 State "L," C SW NW sec. 11-21-36. Loc.



Allen Todd, with Warren L. Todd, Inc., Hobbs, New Mexico; L. L. Rector, president of Rector Well Equipment Co., Fort Worth, Tex.; W. P. (Red) Knight, West Texas-New Mexico representative for National Tank Co. and Rector Well Equipment Co., Midland, Tex.

Mid-Continent Pet. Corp. No. 1 Marshall, SW SE SE sec. 11-21-36. Loc.

Gulf Oil Corp. No. 3 Collins, C SW NE sec. 14-21-36. Bldg. rig.

Gulf Oil Co. No. 3 Bell-State "C," C NE NW sec. 15-21-36. Rig.

Gulf Oil Corp. No. 2 Janda "C," C SW SW sec. 15-21-36. Bldg. rig.

Gulf Oil Corp. No. 8 Arnott-Ramsey "C," C SW SE sec. 21-21-36. Bldg. rig.

Monument Area

Gulf Oil Corp. No. 1 A. B. Reeves, C NW SW sec. 29-20-37. Wildcat; T.D. 3,859 ft.; P.B. 3,846 ft.; swbd. 8 bbls. fluid per hr.; 20% wtr.; C.O. 3,606 ft.

Gulf Oil Corp. No. 3 Graham-State "C," C SW NE sec. 24-29-36. T.D. 4,030 ft.; set packer at 3,875 ft.; showed 2,724,000 ft. of gas; spray of oil; packer set at 3,895 ft.; swbd. 71 bbls. in 24 hrs.

Sun Oil Co. No. 6 Weir, C NW NE sec. 35-19-36. T.D. 305 ft.; set 10¾-in. csg.

Texas Co. No. 4 State "E," C NE SW sec. 1-20-36. T.D. 3,535 ft.; fsg.

Continental Oil Co. No. 2-A-6 Britt, C NW SW sec. 6-20-37. T.D. 3,850 ft.; tbg. to test.

Fred Turner, Jr., No. 1 State "A," NE NW SW sec. 2-20-36. T.D. 3,874 ft.; flowed 60 B.P.H. for 9 hrs.

Texas Co. No. 3 Phillips, C SW NW sec. 6-20-37. Drlg. 3,813 ft.

Anderson-Prichard Oil Corp. No. 3 Britt, SE SW NE sec. 7-20-37. R.U.R.

Sun Oil Co. No. 1 State, C NE NE sec. 25-19-36. Drlg. 3,853 ft.

Anderson-Prichard Oil Corp. No. 1 State, C SW NW sec. 2-20-36. T.D. 3,810 ft.; set 7-in. csg.

Continental Oil Co. No. 4 State "C," C SW NW sec. 30-19-37. Drlg. 970 ft.

Gulf Oil Corp. No. 1 S. T. Burk, C NE NE sec. 28-19-37. Drlg. 3,936 ft.; prep. to core.

Texas Co. No. 1 State "J," C NE SW sec. 24-19-36. T.D. 3,986 ft.

Amerada Pet. Corp. No. 4 State "O," C NE NE sec. 30-19-37. T.D. 3,850 ft.; set 6⅝-in. csg.

Amerada Pet. Corp. No. 1 State "T," C SE SW sec. 25-19-36. T.D. 2,490 ft.; set 8⅝-in. csg.

Shell Pet. Corp. No. 1 J. A. Foster, C SE SE sec. 34-19-36. T.D. 3,807 ft.; set 7-in. csg.

Amerada Pet. Corp. No. 3 Phillips, C SW NE sec. 1-20-36. Drlg. 2,432 ft.

Amerada Pet. Corp. No. 3 State "D," C SE NW sec. 1-20-36. T.D. 2,408 ft.; set 8⅝-in. csg.

Gulf Oil Corp. No. 4 Graham-State "C," C SW SE sec. 24-19-36. T.D. 4,017 ft.; swbd. dry; tstg.

Gulf Oil Corp. No. 1 J. W. Smith, C SE NE sec. 24-19-33. T.D. 3,810 ft.; set 5½-in. csg.

Barnsdall Oil Co. No. 5 Cooper, C NE SE sec. 12-20-36. Drlg. 3,560 ft.

Gulf Oil Corp. No. 7 Culp, C NE NE sec. 19-19-37. Drlg. 4,005 ft.

Gulf Oil Corp. No. 1 D. A. Williams, C NW SE sec. 29-19-37. Drlg. 3,672 ft.

Empire O. & R. Co. No. 2 State "E," SE SE SW sec. 30-19-37. Drlg. 3,835 ft.

Ohio Oil Co. No. 3 State-Elliott, SW SW SE sec. 30-19-37. Drlg. 3,010 ft.

Anderson-Prichard Oil Corp. No. 2 Britt "A," C NE SW sec. 6-20-37. Loc.

Skelly Oil Co. No. 1 State "E," C SE NE sec. 29-19-37. T.D. 225 ft.; set 12½-in. csg.

Empire O. & R. Co. No. 3 State "E," C NW SW sec. 30-19-37. Drlg. 3,468 ft.

Continental Oil Co. No. 2-A-3 Reed, C SE NE sec. 3-20-36. Drlg. 2,655 ft.

Texas Co. No. 1 State "K," C SE SE sec. 18-19-37., Drlg. 1,857 ft.

Oilwell Drlg. Co. No. 2 State "A," C NW NE sec. 29-19-37. Drlg. 1,355 ft.

Ohio Oil Co. No. 4 State-Elliott, C SE SE sec. 30-19-37. T.D. 1,280 ft.; set 9⅝-in. csg.

Anderson-Prichard Oil Corp. No. 4 Britt, C NW NE sec. 7-20-37. T.D. 250 ft.; set 12½-in. csg.

Amerada Pet. Corp. No. 2 State "K," C NE NW sec. 29-19-37. Drlg. 1,200 ft.

Amerada Pet. Corp. No. 1 Sarah Phillips, SE SE SW sec. 33-19-37. T.D. 830 ft.; R.U.R.

Gulf Oil Corp. No. 2 Mathews, C NW SE sec. 6-20-37. Drlg. 2,600 ft.

Amerada Pet. Corp. No. 5 Weir, C SW NW sec. 35-19-36. T.D. 400 ft.; R.U.R.

Amerada Pet. Corp. No. 2 Lambert, C SW NE sec. 6-20-37. T.D. 211 ft.; set 12½-in. csg.

Gulf Oil Corp. No. 1 Kutter, C SW SE sec. 20-19-37. Rig.

Tide Water Oil Co. No. 2 State "F," C NE NW sec. 20-19-37. Bldg. rig.

Amerada Pet. Corp. No. 2 State "P," C SW SW sec. 29-19-37. R.U.

Empire O. & R. Co. No. 4 State "E," SW cor. sec. 30-19-37. Loc.

Gulf Oil Corp. No. 1 Culp "B," NW NW SE sec. 31-19-37. Rig.

Gulf Oil Corp. No. 1 Phillips, NW NW NE sec. 31-19-37. Rig.

Tide Water Oil Co. No. 1 State "H," C NW SW sec. 32-19-37. R.U.R.

Shell Pet. Corp. No. 1 Cooper, NW NW NE sec. 4-20-37. R.U.R.

Texas Co. No. 3 State-Aggies, NE cor. sec. 20-20-37. Rig.

Gulf Oil Corp. No. 5 Graham-State "C," C NW NE sec. 25-19-36. Cellar and pits.

Amerada Pet. Corp. No. 2 State "S," C SW SW sec. 2-20-36. Bldg. rig.

Eddy County

Etz Bros. No. 2 State, C NW SW NE sec. 16-17-30. Drlg. 2,925 ft.; hole full of oil.

Premier Pet. Corp. No. 2 Dexter "E," NW SW NE sec. 20-17-30. T.D. 3,275 ft.; acidized two times; flowed 8⅛ bbls. per hour with 1,000,000 ft. of gas; testing.

Dexter & Berry No. 1 Berry, NW NE NW sec. 21-17-30. Drlg. 3,092 ft.; heads 20 bbls. dly.

Dooley & Dixon No. 1 Commerce, C W½ NW NW sec. 18-20-27. T.D. 958 ft.; fsg. for bit.

Tignor, Etz & Keys No. 4 Keys "A," C SW SE sec. 10-17-28. R.U. machine.

Grayburg Oil Co. No. 7 Burch, C NW NE sec. 19-17-30. Loc.

Red Lakes Oil Co. No. 7 State, NW NW SE sec. 22-17-28. Drlg. 30 ft.

Lea County—Miscellaneous

Texas Co. and Repollo Oil Co. No. 1 Lanehart, C NE sec. 29-25-37. T.D. 3,165 ft.; W.O.C.

Maljamar O. & G. Co. No. 6 Baisch, C NW SE sec. 21-17-32. T.D. 4,129 ft.; P.B. 3,950 ft.; flowed 150 bbls. dly. for 2 days after third acid treatment; then 80 bbls. dly.; testing.

Ohio Oil Co. No. 1 W. H. Turner, C NE SE sec. 29-21-37. T.D. 3,800 ft.; swbg. 2 bbls. per hour.

Landreth Prod. Co. No. 1 J. W. Grizzell, C SE SW sec. 5-22-37. Drlg. 2,900 ft.

Rowan et al No. 1 Mattern, C SW SE sec. 7-22-37. Drlg. 3,415 ft.

C. & G. Oil Co. No. 1 E. Weir, C NE NE sec. 14-20-37. Wildcat; T.D. 3,893 ft.; testing; 10 bbls. oil dly.; 1,200,000 ft. gas.

Gulf Oil Corp. No. 1 E. King, C SW NW sec. 28-21-37. T.D. 3,629 ft.; set 5½-in. csg.

Gulf Oil Corp. No. 1 W. T. McCommack, C NE NE sec. 32-21-37. Drlg. 3,694 ft.

Continental Oil Co. No. 1 J. C. Farney, C SW SE sec. 5-23-36. Wildcat. Loc.

Gulf Oil Corp. No. 1 S. J. Carr, C NW SW sec. 3-24-37. Drlg. 1,220 ft.

Gulf Oil Corp. No. 2 N. F. Humphreys, C NE NW sec. 25-25-36. T.D. 3,185 ft.; standardizing.

Sun Oil Co. No. 1 Stuart, C NW NE sec. 15-25-37. T.D. 3,390 ft.; flowed 32 bbls. in 24 hrs. by heads.

Continental Oil Co. No. 2-A-19 Eaves, C SW SW sec. 19-26-37. Drlg. 1,347 ft.

Gulf Oil Corp. No. 1 J. A. Stuart, C SW NE sec. 10-25-37. T.D. 2,855 ft.; W.O.C.

Gulf Oil Corp. No. 1 L. M. Buffington, C NW SW sec. 13-25-37. T.D. 1,995 ft.; set 8⅝-in. csg.

Sun Oil Co. No. 1 Lanehart, C SE SE sec. 20-25-37. T.D. 2,355 ft.; set 9⅝-in. csg.

Humble O. & R. Co. No. 1 Lanehart, C NE SW sec. 21-25-37. T.D. 3,326 ft.; est. 10,000,000 to 15,000,000 ft. gas.

Humble O. & R. Co. No. 1 Hadfield, C NW SE sec. 21-25-37. T.D. 3,141 ft.; flowed 216 bbls. in 22 hrs.; fsg.

Magnolia Pet. Co. No. 1 E. O. Carson, C NW SW sec. 28-21-37. Drlg. 1,875 ft.

Skelly Oil Co. No. 1 Stuart, C NE NW sec. 15-25-37. T.D. 151 ft.; set 10¾-in. csg.

Texas Co. No. 1 Eula Alexander, C NW SW sec. 7-21-37. T.D. 3,157 ft.; set 7-in. csg.

Byrd-Frost, Inc. No. 1-A-1 Wells, C NW SW sec. 1-25-36. R.U.R.

Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. Drlg. 110 ft.

Texas Co. No. 1 E. Fanning, C SE NE sec. 4-24-37. Cellar and pits.

Jal Natural Gas Co. No. 1 Bates, C NW SW sec. 20-25-37. Loc.

Harry Leonard No. 2 Lanehart, C SE NW sec. 21-25-37. Cellar and pits.

Culbertson & Irwin No. 1 Eaves, C SW NW sec. 18-21-33. M.I.M.

De Baca County

Mid-Continent Engineering Corp. No. 1 State, C NW SE sec. 27-4n-22e. T.D. 735 ft.; U.R. 10-in. csg.

Chaves County

Tannehill No. 2 Campbell, C NE SE sec. 1-11-25. T.D. 1,400 ft.; drlg. plug.

Comanche Drlg. Co. No. 2 Sloop & Purcell, C NE NE sec. 15-11-26. Drlg. 880 ft.

Sims Area

Samedan Oil Co. No. 1 Parks, 330 ft. from S and 400 ft. from W lines, SW¼ sec. 14-22-37. T.D. 3,708 ft.; preparing to shoot.

Continental Oil Co. No. 1-A-22 Elliott, C SW SW sec. 22-22-27. T.D. 3,539 ft.; fishing; flows 40 to 50 bbls. daily while fishing.

Skelly Oil Co. No. 1 Ella Simms, C NW SE sec. 3-23-27. T.D. 226 ft.; set 12½-in. casing.

Penrose & Rowan No. 2 Cary, C NE SW sec. 22-23-37. Flowing 70 to 110 bbls. daily; tubing, to clean out and shoot.

Sun Oil Co. No. 1 Richards, C NE SE sec. 6-23-37. T.D. 3,798 ft.; pumped 5 bbls. oil, 32 bbls. water, in 16 hrs.; S.D. for repairs.

Humble Oil & Ref. Co. No. 1 W. B. Farrell, C SW SE sec. 22-22-37. Drlg. 3,215 ft.

Tide Water Oil Co. No. 1 A. Walden, C SE NE sec. 21-22-37. Drlg. 2,855 ft.

Magnolia Pet. Co. No. 1 Cary, C NE SE sec. 21-22-37. Drlg. 2,660 ft.

Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. Drlg. 1,305 ft.

Continental Oil Co. No. 1-A-15 Elliott, SE SE SE sec. 15-22-37. Location.

Continental Oil Co. No. 1-A-21 Elliott, C SE SE sec. 21-22-37. Location.

Skelly Oil Co. No. 2 J. V. Baker, C NW NW sec. 27-22-37. T.D. 1,140 ft.; set 8¼-in. casing.

Gulf Oil Corp. No. 1 F. C. King, C SW NW sec. 5-23-37. T.D. 65 ft.; S.D. for water.

Penrose & Rowan No. 4 Cary, C SW NW sec. 22-22-37. T.D. 1,146 ft.; set 8⅝-in. csg.

Hobbs Area

Shell Pet. Corp. No. 1 State "E," C E half SE SE sec. 14-18-37. T.D. 4,374 ft.; P.B. 4,178 ft.; shut down and may abandon.

National Securities Oil Corp. No. 1 Linam, NE SE SW sec. 33-18-37; wildcat. Old well plugging back from 4,238 to 4,228 ft.; swabbed sulfur water; no oil; shut down for orders.

Shell Petroleum Corp. No. 4 Sanger, SW SW NW sec. 27-18-39. T.D. 4,221 ft.; tubing to test.

Cooper Area

Plains Prod. Co. No. 1 R. L. Mosley, C NW SE sec. 34-24-37. T.D. 3,551 ft.; flowed 12 bbls. in 24 hrs.; 1,000,000 ft. gas; tubing.

Southern Oil Corp. No. 1 Vaughan, C SW SE sec. 15-24-36. Drlg. 2,922 ft.

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. T.D. 3,497 ft.; S.D. for orders.

Skelly Oil Co. No. 5 Coates, C NE SE sec. 3-24-36. T.D. 1,368 ft.; rigging up rotary.

NORTHWEST NEW MEXICO

Bernalillo County

Norine Realty Co., Inc., No. 2 Gallegas grant, SE NW NW sec. 19-11n-4e. Drlg. 1,650 ft. in sand and gravel.

Guadalupe County

Anton Chico Dev. Co. No. 2 fee, NW NE SW sec. 20-9n-17e. T.D. 804 ft.; fshg. tools.

Ralph Knight et al No. 1 Anton Chico, SW sec. 33-9n-16e. Spd. & S.D. (first report).

McKinley County

S. Dysart et al No. 1 Bouton, CEL NW NE sec. 14-14n-10w. T.D. 1,490 ft.; rmg. at 775 ft.

San Juan County

Atchison & Galloway No. Patd, C SE SE sec. 19-29n-11w. Drlg. 100 ft.

W. L. Hair No. 1 Hair, NE NW NE sec. 23-29n-11w. S.D. 900 ft.

Kutz Canon O. & G. Co. No. 1 Day, SW SW SW sec. 20-28-10w. T.D. 4,400 ft.; pulled 4½-in.; C.O. 3,900 ft.

Continental Oil Co. No. 53 Tribal, SE SE NW sec. 2-29n-19w. P.&A.; water in Dakota at 895 ft.

Nick Spatter No. 1 fee, C NE SW sec. 32-21-11w. S.D. 1,780 ft.; T.A.

Southern Union Gas Co. No. 6 Government, C NW NW sec. 19-28-10w. Set 6⅝-in at 1,909 ft.; drlg. in 1,585 ft. sh.

Torrance County

45 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9-8e. Drlg. 1,925 ft. blue and gr. L.

Bruce Frazier No. 1 Frazier, SE sec. 12-2n-31e. Drlg. 1,875 ft. gr. L.; S.O. in blue sdy. L. at 1,800 ft.

COLORADO

Adams County

Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64. Drlg. 4,252 ft.; form. hardening.

Riddle Pet. Co. No. 1 Baxter, C SW sec. 2-3s-6w. S.D. 700 ft. for D.P.

Archuleta County

Wm. E. Hughes Est. No. 7 Gramps, NW SE SE sec. 23-33n-2e (unsurveyed). Drlg. 800 ft.

Carl D. Linstrom No. 1 Crowley, SE SE SE sec. 3-22n-2e. M.I.M.

O. A. Larrazola, Jr. No. 1 Gonzales, SE SW SE sec. 24-32n-1e. Spd. and S.D.

Oil City Pet. Co. No. 1-A Garnett, NW NE NW sec. 25-33n-2e. S.D. 1,515 ft.; top Dakota series 1,415 ft.

Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Reeder, Lot 5 (SW SE SW), sec. 24-33n-2e. T.D. 575 ft.; U.R. 8¼-in. to bottom.

H. L. Kendrick No. 1 Crowley (unsurveyed), sec. 2-32-1. S.D. 1,125 ft. for 6¼-in.

Baca County

Paul R. Robb Pet. Corp. No. 1 Lovett, NW NW NW sec. 24-32s-48w. Cmtd. 12½-in. at 305 ft. (cor.); resuming.

Costilla County

Some interest is being shown in the wildcatting possibilities in Costilla County, just north of the New Mexico line and in the same general area as the William E. Hughes Estate's operations in Archuleta County. Last January R. L. Lane spudded in a test on the Midwest Land & Cattle Co. ranch southwest of Fort Garland and shut down to install standard equipment. It is still shut down while titles are being adjusted. The location is reported to be on some kind of a structure which extends over into the Trinchera Estate's ranch, one of the biggest ranches in Colorado and comprising more than 30,000 acres. Several attempts have been made recently to lease the ranch for oil exploration, but the executors are said to have declined all offers. The Lane test is located in the NW cor. section 24-31-74.

Huerfano County

Collins & Quinn No. 1 fee, C W½ E½ sec. 4-28s-68. Drlg. 3,905 ft. in new hole; old T.D. 4,115 ft.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal Co., NW NW sec. 18-9n-78w. T.D. 2,275 ft. (cor.); U.R. 12½-in. at 2,200 ft.

Jefferson County

Ruby Hill O. & G. Co. No. 1 Braden, SE SE SE sec. 24-4s-69w. Drlg. 4,450 ft. in hd. L.

Larimer County

Continental Oil Co. No. 8 Buckeye-U. P., C NE SW sec. 31-10n-68. Rig.

LaPlata County

McGarr Pet. Co. No. 1 Pinton Mesa, CSL NE NE sec. 34-35n-12w. Drlg. 3,200 ft.

Las Animas County

Mountain States Oil Corp. No. 1 Nikola, C NE SE sec. 10-34n-62w. S.D. 1,813 ft.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE SW sec. 7-17s-62. T.D. 2,050 ft.; W.O. 8¼-in.

Moffatt County

Mountain Fuel Supply Co. No. 1 Allen, NE SW SE sec. 32-12n-97w. M.I.M. and drlg. wtr. well.

Mountain Fuel Supply Co. No. 1 Kuykendall, NE NE SE sec. 22-12n-100. Rng. 4¾-in. at 2,412 ft.

Texas Co. No. 3 Iles Inv. Co., 200 ft. E of W line, and 165 ft. S of N line, Lot 4, sec. 23-4s-92. Drlg. 330 ft.

Morgan County

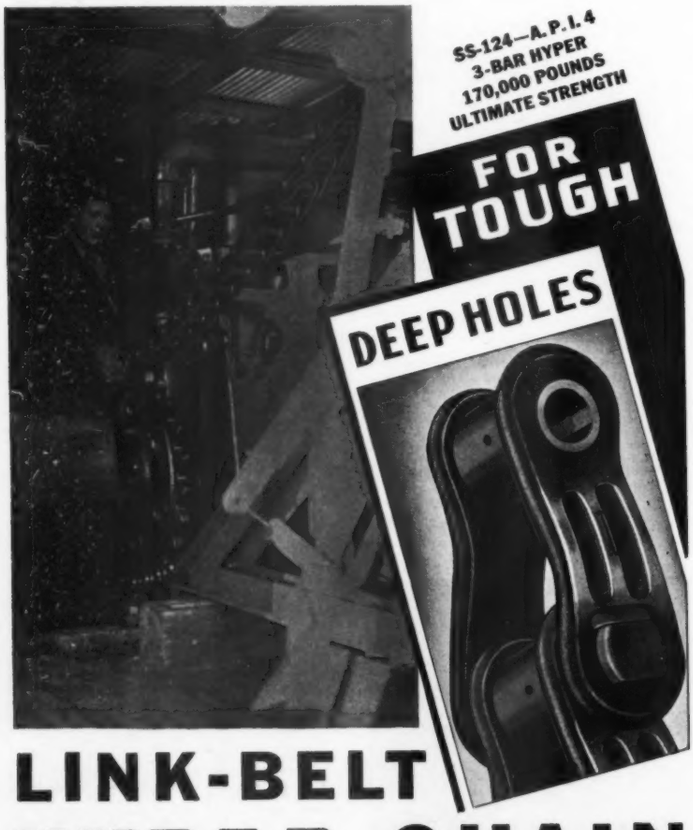
Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60. T.D. 1,449 ft.; R.U.R.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-26n-17w. Contracted with Perry Coon to comp.; T.D. 3,705 ft.; drove tools to bottom; fsg.

Park County

South Park Oil Co. No. 1 State, in the Hartsel district, which flowed by heads on April 13 at 4,157 feet, total depth, is bottomed in sandy shale at 4,440 feet and underreaming the 6¼-inch to shut off the oil coming into



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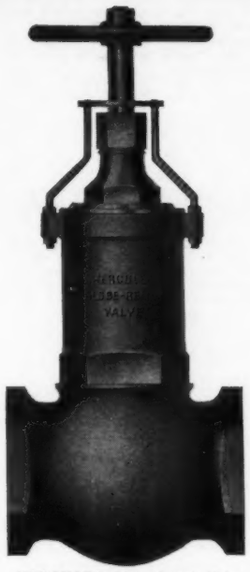

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HERTOCO

the hole which is interfering with drilling deeper. It is swabbing around 50 bbls. a day and the shale has continued to show saturation to present depth.

South Park Oil Co. No. 1 LeBert, NE NE NW sec. 21-11s-75w. S.D. after cmtg. 15½-in. at 60 ft. and drlg. wtr. well.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. T.D. 4,440 ft.; U.R. 6¼-in. at 4,180 ft.

Routt County

Mid-Colo. Pet. Co. No. 1 Omoholt, NE SE SE sec. 29-4n-87w. Set 8¼-in. on bottom at 1,910 ft. and S.D. acct. bad roads.

Washington County

Indian Territory Ill. Oil Co. and Carter Oil Co. No. 1 Vorce, C NE NE sec. 28-1s-49w. Cellar comp.; comp. 3 wtr. wells at 180 ft. for 100 to 200 bbls. each per day and drlg. 4th. wtr. well.

Weld County

Continental Oil Co. No. 1 State Bank of Trenton, C SW NE sec. 21-8n-59w. Drlg. 4,827 ft.; stky. sdy. sh.

Yuma County

Indian Territory Illuminating Oil Co. No. 1 Strangway, on the Beecher Island block, encountered the gas sand in the Pierre shale between 1,400 feet and 1,500 feet. This sand in the Continental Oil Co. No. 1 State, which was drilled several years ago through the Dakota at a location half a mile to the south, had this sand at 1,475-1,500 feet. Several wells drilled about 15 years ago to the north had up to as high as 1,000,000 feet a day in this horizon and while the pressure was light, the flow of gas was consistent. The well is being drilled with a heavy duty rotary diesel-powered rig. Two geologists are stationed at the well day and night and it is understood that coring ahead of the bit will take place practically all the way down.

Indian Territory Ill. Oil Co. No. 1 Strangways, C NW SW sec. 21-2s-43w. Drlg. 2,620 ft.

WYOMING

The Salt Creek field, one of the wonder oil fields of the country, which has produced more than 265,000,000 bbls. of oil since it first went on production in 1911, is scheduled for some important changes in the near future. The nature of these changes and the direction they will take will depend upon the report of engineers now at work on the problems and whether the operators can be united in some common plan for future developments. Representatives of the U. S. Geological Survey are cooperating with the engineers for the companies in extensive studies carried on during the past year relating to further gas stimulation of production and unitization plans for effecting greater economies in operations and increased ultimate recovery.

The principal producing horizon is the second Wall Creek sand in the Frontier formation. Vacuum pressure is now being employed in stimulating production from this sand, but the government and the operators want to cut down on this type of pressure which pulls the oil and gas into the wells. The suction has a tendency to increase the pressure in the gas cap and leave the oil in the lower part of the sand inert. A recovery of 15 to 17 per cent of the oil in the sand, with 20 per cent as a probable maximum, is the best that can be expected under present methods. By introducing gas pressure into the sand at the bottom throughout the field it is believed that the ultimate recovery can be doubled and that the field can be made to produce as much oil in the future as in the past.

The feasibility of bringing gas to Salt Creek from the Big Horn Basin, where there is an abundant supply, is one of the matters under consideration. It will require a pipe line probably 125 to 150 miles long. The entire cost of repressuring the sand, including the construction of the pipe line, probably will go up to $5,000,000 or $6,000,000, but in view of the results expected, this is comparatively small in proportion to the value of the increased recovery.

In order to repressure the entire field, the unitization of the area and its operation as a single property is looked upon as the ideal method. A study of this plan is under consideration. It involves some difficult features, such as the restriction of the acreage which can be held in one ownership under the leasing act. However, since the government will be one of the principal beneficiaries as the largest owner of land, its cooperation may be hoped for. The principal companies involved are the Mountain Producers Corp., the Salt Creek Producers Association, the Sinclair-Wyoming Oil Co., and the Argo Oil Co. There are smaller companies with acreage mostly around the edges who would have to agree to the plan before it could actually be adopted. The leases on government land mostly are held by subsidiaries of the companies named. Studies already are being made looking to the simplification of the corporate structures of these companies and the consolidation of their holdings.

If the owners of leases and royalties are unable to reach a common ground for unitization, there still remains the possibility of a cooperative agreement among all of them to repressure the field with gas, all contributing proportionately to the cost and prorating production on some equitable basis. Even in the event some of the smaller companies are unable to agree to such a plan, there still remains the possibility of repressuring the areas of those companies which do reach an understanding.

While the study has been under way for about a year, there remains much work to be done before concrete proposals can be submitted. This includes figures on the costs, the probable future recovery under the plan, and the determination of the most equitable basis upon which to attempt the unification. It is apparent under the circumstances that several months may elapse before the plans take on some concrete form.

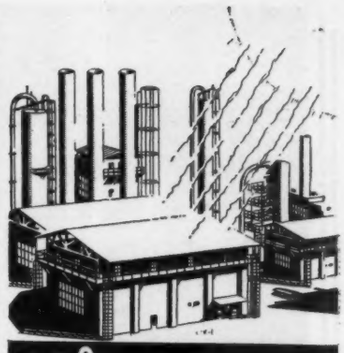
Albany County

George D. Parkinson, of Salt Lake City, one of the principal owners of producing leases in the Iles field in Colorado, and his associates, have acquired a one-half interest in the James Lake test. The James Lake Oil Co. continues as an active participant in the development.

California Co. No. 1 Wilson, NW SW SW sec. 18-17n-76w. T.D. 3,367 ft.; rmg. at 2,951 ft.
Geo. D. Parkinson et al No. 1 George & Hunt, NW NE SE sec 5-17-75w. Drlg. 240 ft.; (formerly James Lake Oil Co.).

Big Horn County

A relief well cleaned out by the Ohio Oil Co. for water 330 feet south of the Montana-Wyoming Oil Co. No. 1 Allen has begun pumping water into the burning well with high-pressure pumps. No. 1 Allen has been out of control since January 19 and has been on fire since March 27. It came in for 60,000,000 feet of gas. A relief well being drilled by the Mon-



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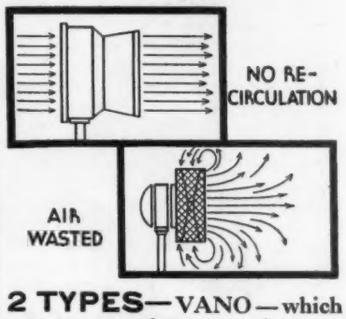

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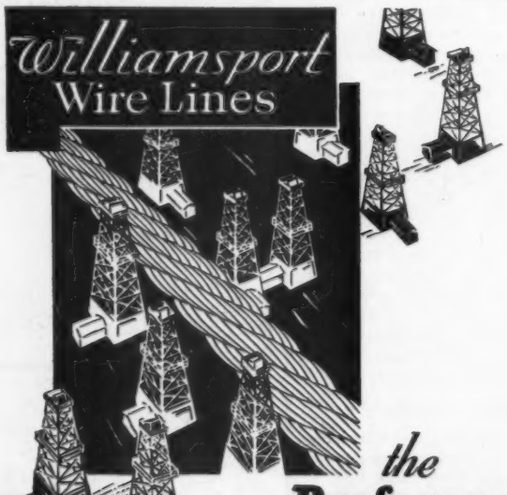

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tana-Wyoming company also is almost ready to take off the gas through a new vent.

J. W. Bales No. 1 Parker, C SW SW sec. 23-4-89. S.D. 690 ft. for pipe.
Joan Oil Co. No. 1 Howell, Lot 63 (NW SE NE) sec. 32-55n-97w. Resuming at 3,190 ft.
Montana-Wyoming Oil Co. No. 1-X Allen, Lot 52, sec. 18-56n-97w. Drlg. 1,492 ft.; (relief well for No. 1 Allen).
Ohio Oil Co. No. 1 State, NE, cor. Lot 38, sec. 36-56n-97. Loc. (first report).
Ohio Oil Co. No. 1 Orson Vail, SW NW NE sec. 23-56n-97w. Drlg. 586 ft.; surf. pipe at 419 ft.
Ohio Oil Co. No. 1 Robert Till, C SE SW sec. 24-56n-87w. Drlg. 4,426 ft.
Peay Oil Co. No. 1 Denio, Tr. 43-C, sec. 15-55n-97w. T.D. 3,890 ft.; trying to cmt. off wtr. through hole in pipe.
Stock Oil Co. No. 1 Yates, CSL SW NE sec. 33-56n-97w. Top red beds 2,481 ft.; cmtd. 10-in. at 2,560 ft.
Taylor Oil Co. No. 1 Robinson, SW SW NW sec. 24-56n-97w. Rigged and rdy. to spd.

Carbon County

The Ohio Oil Co. is moving in rotary rig to complete a test on the Oil Springs structure which was drilled to 1,498 feet in 1909. It had some gas at that depth followed by water. The rig burned down and operations were suspended. Location is in section 2 23-79.

Ohio Oil Co. No. 1 Baker, NW NW SW sec. 2-23n-79. M. I. rig to resume at 1,498 ft. (first report).
General Pet. Corp. No. 1 Union Pacific, SW NW sec. 5-19n-83w. Drlg. 2,189 ft.
Ohio Oil Co. and California Co. No. 2 Union Pacific, C NE NE sec. 35-21n-79w. Drlg. 4,912 ft.
Ohio Oil Co. No. 4 Dixon, SE SE SE sec. 34-20n-78. Drlg. 3,255 ft. sh. and shells.
Ohio Oil Co. No. 7 Diamond Cattle, N½ sec. 35-20n-78w. Spdg.
Ohio Oil Co. and California Co. No. 3 Union Pacific, C NE SE sec. 23-21n-79w. Drlg. 4,311 ft.
Ohio Oil Co. No. 2 Dixon, SE NE SE sec. 34-20n-78w. R.U. to deepen old well from 3,094 ft. to Sundance.
Union Oil Co. of California and Mutual Oil Synd. No. 1 Union Pacific, 1,890 ft. from E line and 1,320 ft. from S line, sec. 1-18-78w. Drlg. 4,456 ft.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW SW sec. 16-32n-69w. Drlg. 2,200 (cor.) ft.; carrying 10-in.
J. A. Olson No. 1 Reese, C NE SE sec. 10-32n-65w. M.I.M.

Fremont County

Tropic Oil Co. No. 1 Government, C SE SW sec. 34-27n-90w. T.D. 2,550 ft.; rng. 4¾-in.
Sinclair-Wyoming Oil Co. 2-C Muskrat, NE SW NW sec. 1-33n-92w. Drlg. 2,300 ft.

Hot Springs County

California Exploration Co. No. 2 Government, NW SW NW sec. 4-44-96. T.D 4,245 ft.; P.B. to 4,165 ft.; shot 80 qts.; cwdg. cg.
Ohio Oil Co. No. 73 Mill Iron Cattle Co., NE SW SE sec. 19-4n-98w. Drlg. 3,239 ft.
Stanolind O. & G. Co. No. 20 State-Ridgely, SE NE SE sec. 19-46n-98w. Drlg. 3,990 ft.

Lincoln County

Senrab Oil Corp. No. 3 Government, CSL SE NW sec. 10-26n-113w. S.D. 1,020 ft.

Niobrara County

The Continental Oil Co. completed a good well in the basal Sundance in Lance County in its No. 6 Otto Rohlff, C SW SW section 32-36-65, at a total depth of 3,819 feet. It flowed 90 bbls. an hour initial and settled to a steady flow of 1,989 bbls. per day with 6,000,000 feet of gas. The basal Sundance was at 2,776-3,809 feet. Top of red beds was at 3,809 feet. Top of first Sundance was at 3,561 feet. It is an offset to the Ohio Oil Co. No. 5 Converse Sheep, the mystery well which was drilled below the Sundance and is generally believed to have encountered heavy production of 40 gravity black crude at below 4,600 feet. Some estimates of its capacity are as high as 8,000 bbls. a day, but most reliable estimates put it at 4,800 bbls. from the Tensleep. It is to be deepened to the Madison to make a test of all possible oil horizons.

Argo Oil Co. No. 7 Elliott, C NE NW sec. 5-35n-65w. T.D. 4,009 ft., red beds; swbg. and tstg.; est. at 200 bbls.
Continental Oil Co. No. 2-B Schuricht, C NW SE sec. 6-35n-65w. Dk.
Continental Oil Co. No. 4 Joss, 90 ft. W of C SW NE sec. 6-35n-65w. Crd. sd. and sh. at 3,679-3,748 ft.
Continental Oil Co. No. 2 Apex-3, C SE NW sec. 34-36n-65w. Drlg. 3,020 ft. sh and bentonite.
Lewis Gokel No. 1, NE SE NW sec. 31-35n-62w. S.D. 550 ft. Dakota (?) at 453-74 ft.
MacKinnie Oil & Drlg. Co. No. 1 Thompson, NE NW NE sec. 7-35n-65w. Drlg. 500 ft.; 12½-in. at 147 ft.
Ohio Oil Co. No. 8 Lamb, C SW NE sec. 5-35n-65w. Spdg. 406 ft.; drlg. 2,691 ft.
Ohio Oil Co. No. 5 Converse Sheep, C SE SW sec. 32-36n-65w. S.D. below 4,600 ft.; believed to have cored top of Tensleep.
Wickersham & Kyle No. 1 fee, NE NE NE sec. 14-39n-61. Drlg. 150 ft.
S. & H. Dev. Co. No. 1-A Olinger, SW NE sec. 1-34n-63. T.D. 1,700 ft. in Fuson sh.; pulled 4½-in. to rm. to bottom.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-55n-85w. Drlg. 3,090 ft.

Sublet County

Wright & Lackey No. 1 Haddenham, SE NW SW sec. 21-28n-113w. (Dry Piney); R.U. Fort Worth spudder (first report).

Sweetwater County

Mountain Fuel Supply Co. No. 1 Nightingale, C SW NE sec. 32-16n-104w. Drlg. 640 ft.

Park County

The Resolute Oil Co. has contracted with Manning & Martin, Inc., to complete its No. 1 State on the Badger Basin structure. This well was drilled to 3,608 feet in 1933, and shut down after setting the 9⅝-inch. This test may prove a record well for depth in the Rocky Mountain area. The same company drilled the discovery well in section 17 to a depth of 8,725 feet in 1931 and brought it in as a producer in the Wall Creek. It held the record for this district not only for total depth, but for open hole drilled, some 5,000 feet, with cable tools. It cemented the hole as it went down and drilled out while cement was still wet.

Resolute Oil Co. No. 1 State, C NW SW sec. 16-57-101. R.U. new D.P. to resume at 3,608 ft.
General Pet. Corp. No. 1 Gov't, NW NW NW sec. 33-47-100. Loc.

Washakie County

Bruce C. Teeters No. 1 Brome-Gov't, CNL SW NW sec. 31-48n-90w. T.D. 1,542 ft.; R.U. pump; est. at 15 bbls.; top Frontier 1,498 ft.; 8¼-in. cmtd. 1,500 ft.; W.O.C.
Wyoming O. & R. Co. No. 2 Gov't, NW SW SW sec. 31-48n-90w. Drlg. 1,695 ft.; may P.B. to 1,400 ft. to str.

Weston County

Conway Oil Corp. No. 1 Gov't, C SE NW sec. 7-41n-60w. T.D. 2,304 ft.; ran 3-in. tubing to test show oil in Pashasapa (Madison); W.O.C.

MONTANA

Production of Montana fields in April was 490,279 bbls., a gain of 12,385 bbls. as compared with March as reported by the Oil Conservation Board. Production by fields was as follows:

	Bbls.
Kevin-Border	142,029
Cut Bank	271,876
Cat Creek	22,681
Pondera	33,246
Others	20,447
Total	490,279

Consumption was 429,285 bbls., a decrease of 37,188 bbls. as compared with March. Of the total named, 177,425 bbls. were refined in Montana, 256,768 bbls. were exported to Canada and 698 bbls. were shipped to Wyoming.

Storage at the end of April was 1,349,941 bbls., an increase of 60,994 bbls. over the end of March. Storage by fields is as follows:

	Bbls.
Kevin-Border	499,373
Cut Bank	537,338
Cat Creek	154,491
Pondera	116,911
Others	41,828
Total	1,349,941

(Continued on Page 90)

Kansas Developments

By
DAL DALRYMPLE

RUDER POOL EXTENDED AND PROSPECTIVE FIELD IN RICE

An extension of the Ruder pool in Ellis County, encouraging showings of oil in two wildcats and the definite proving of big Chat production in the Hauschild area near Nickerson were features of an otherwise drab and routine week in Kansas oil activity. Several comparatively large producing oil wells were completed in proven areas of the state.

The Ruder pool of Ellis County was extended a half mile northeast by Tom Palmer and Storm King No. 1 Madden, NW SW section 9-15-18w, which was showing as a producer from Siliceous lime, topped at 3,546 feet. Total depth is 3,569 feet. Oil rose 2,500 feet in the hole in 14 hours. Cores showed saturation.

H. K. Beardmore and others No. 1 Fuller, SW SW SE section 23-18-7w, wildcat 5 miles northeast of production in the Geneseo pool of Rice County, was a prospective pool opener. A sand, reported as the Wilcox, was topped at 3,183 feet and at 3,200 feet oil rose 400 feet in the hole overnight. First showing of oil was at 3,180-85 feet, and free oil began rising in the hole at 3,196 feet. Casing was set at 3,198 feet. It was expected the hole would be deepened before production test was made. Simpson & Noble and others No. 1 Pulliam, C S half N half NE section 35-19-8w, wildcat northeast of Lyons in Rice County, had water at 2,735-55 feet, but was reported to have found oil below the water at around 3,104-21 feet. Production there was estimated at 1 bbl. of oil and 1 bailer of water an hour. Kansas City lime was topped at 2,846 feet. It topped Conglomerate at 3,155 feet and was drilling deeper.

Doubt that Chat would produce prolifically in the Hauschild area of southern Rice County, near Nickerson, was dispelled by the potential test of the E. J. Shaffer and A. A. Buschow No. 1 Hauschild, NW NW NE section 15-21-7w. It flowed 2,430 bbls. of oil in 5½ hours, making potential of 10,585 bbls. in 24 hours. It averaged 441.81 bbls. an hour on test. Chat was topped at 3,370 feet; total depth, 3,379 feet. Other tests are being started in the area, and L. E. Douglas and others No. 1 Rosa Hauschild, NE NE NW section 15-21-7w, which was completed several weeks ago to open the new area and made potential of 1,280 bbls., was being deepened as a result of the showing at the new well.

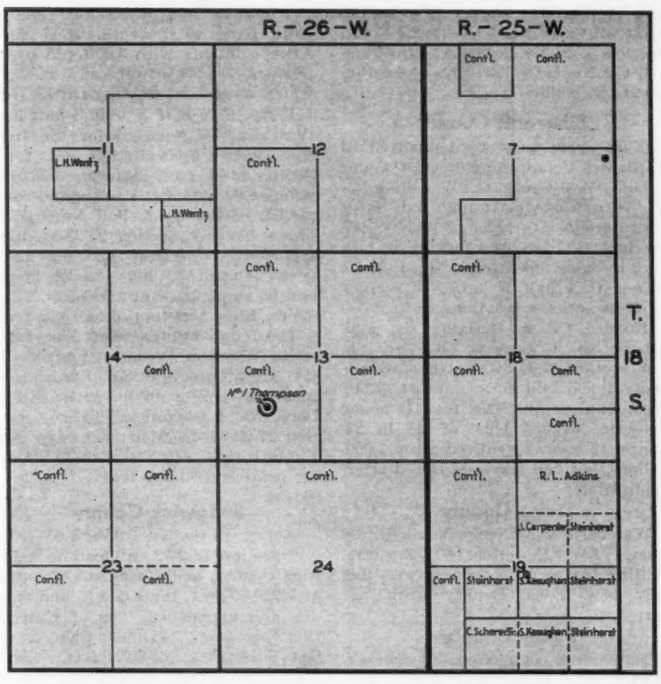
Rice County

Completions in Rice County included four producers and three failures. Biggest of the producers was Darby Petroleum Corp. No. 1 Johnson, SE SE SW section 10-21-7w, in the Wherry district. It topped Chat at 3,367 feet; total depth, 3,367 feet; flowed 363 bbls. in three hours and made potential of 2,160 bbls. of oil.

Other Rice County completions follow: Continental Oil Co. and others No. 1 J. Jones, NE NW NE section 36-18-8w, topped Siliceous lime at 3,155 feet; total depth, 3,165 feet. It was acidized with 4,000 gallons and made potential of 1,749 bbls. Stanolind Oil & Gas Co. No. 5 Mitchell, NE NW SW section 32-19-10w, made potential of 639 bbls. after acidizing with 4,000 gallons. Top of Siliceous lime was 3,298 feet; total depth, 3,330 feet. Gulf Oil Corp. No. 4 Keesling, NE SW SW section 10-20-9w, pumped 238 bbls. of oil in 16 hours after acidizing and made potential of 274 bbls., with 19 bbls. of water. Siliceous lime was topped at 3,214 feet; total depth, 3,254 feet. Grattan and others No. 1 Williams, SW SW NW section 17-18-7w, wildcat, topped Conglomerate at 3,207 feet; Viola lime, 3,304 feet, and was dry and abandoned at 3,363 feet. Dickey Oil Co. and Continental Oil Co. No. 1 Newkirk, NE NE SW section 11-18-7w, wildcat, was dry and abandoned at 3,353 feet, total depth. It topped Kansas City lime at 2,737 feet; Viola, 3,296 feet; Simpson, 3,332 feet. Sinclair Prairie Oil Co. No. 4 Graham, NE SW SE section 16-20-10w, topped Siliceous lime at 3,357 feet and was dry and abandoned at 2,352 feet after drilling into water at 3,371 feet, total depth, and setting whipstock at 2,268 feet.

New work in Rice County: Saco Oil Co. and others No. 1 Haxton estate, NW NW NE section 30-19-8w, location; Continental Oil Co. and others No. 1 Root, NW NE NE section 36-18-8w, an old well being deepened, drilling at 3,190 feet.

Continental Oil Co. No. 1 Root, NW NE NE section 30-18-8w, Wilcox sand well in the Geneseo area, produced 579 bbls. of oil at 3,181 feet, total depth, and may be deepened to Siliceous lime. Mid-Continent Petroleum Corp. No. 8 Hartle, SE SE NW section 15-20-9w, topped Siliceous lime at 3,227 feet; total depth, 3,230 feet. Seven-inch pipe was to be set at 3,227 feet, and standard tools were to be rigged up. Shell Petroleum Corp. No. 1 Maughlin, NE NW SE section 11-20-8w, topped Siliceous lime at 3,241 feet and set 7-inch casing at 3,244 feet. It was to be standardized. Stains of oil were showing in bottom hole cuttings, it was reported.



Continental Oil Co. No. 1 Thompson, C E half E half SW section 13-18-26w, apparently has opened a Siliceous lime pool in Ness County
(Mid-Continent Map Co., Wichita, Kans.)

Russell County

Coralena Oil Co. No. 1 Boomhower, NW cor. section 32-15-13w, in southern Russell County, made potential of 1,804 bbls. of oil after acidizing and was completed at 3,286 feet, total depth. Anhydrite was topped at 818 feet; Topeka lime, 2,730 feet; Oswald, 3,015 feet; Siliceous lime, 3,272 feet.

Other Russell County completions follow: Skelly Oil Co. No. 1 Ehrlich, SW SW NE section 25-14-15w, made potential of 1,116 bbls. from Gorham sand topped at 3,152 feet; total depth, 3,157 feet. Derby Petroleum Co. No. 2 Dumler, NE NW NW section 11-14-15w, topped Gorham sand at 3,287 feet, total depth 3,290 feet, and made potential of 802 bbls. Top of Anhydrite was 915 feet; Oswald, 3,040 feet. Texas Co. No. 4 Johnson, SW NE NE section 2-14-15w, was acidized and produced 226 bbls. of oil and 80 bbls. of water; top of Anhydrite was 932 feet; Oswald lime, 3,055 feet; total depth, 3,135 feet. Central Petroleum Co. No. 1 Fister "B," SW SW NE section 3-14-15, an old well deepened, had Gorham sand pay at 3,311-15 feet, total depth, and made potential of 498 bbls. Southern Oil Co. No. 2 Berrick, SW NE NE section 6-15-13w, topped Gorham sand at 3,210 feet; had a hole full of water at 3,210-37 feet, and was dry and abandoned at 3,250 feet, total depth.

The following new work in Russell County was reported: Central Petroleum Co. No. 4 Foster "A," SE SE NW section 3-14-15w, building rig; J. C. Schaffer, Inc., No. 3 Polcyn, SE NE NE section 10-14-15w, rotary rig; Darby Petroleum Corp. No. 4 Dumler, NW NE NW section 11-14-15w, location; same operators No. 5 Dumler, SE NW NW section 11-14-15w, location; same operators No. 1 Dumler "B," NW SW NW section 11-14-15w, location; Sinclair Prairie Oil Co. No. 1 E. C. Berrick, SW SE SE section 23-15-13w, moving in material; W. I. Southern, Inc., No. 3 Sellens, NW SW SW section 20-15-13w, cellar; same operator's No. 3 Shaffer, SE NE NE section 31-15-13w, location; Coralena Oil Co. No. 3 Boomhower, SW NW NW section 32-15-13w, ponds.

Gulf Oil Corp. No. 1 Ehrlich, SW SW NW section 1-14-15w, an old well being deepened, drilled to 3,099 feet, plugged back to 3,078 feet and on potential test flowed 990 bbls. of oil and 207 bbls. of water. It was not completed.

Barton County

Texas Co. No. 1 F. Bloomer, NW NW NE section 36-17-11w, in the Bloomer pool, was the largest producer of three Barton County completions. It topped Siliceous lime at 3,264 feet; total depth, 3,271 feet, and made potential of 1,853 bbls. National Refining Co. No. 1 McLean, SW SW SE section 25-17-11w, made potential of 1,836 bbls. of oil from Siliceous lime at 3,264-72 feet, total depth. Stanolind Oil & Gas Co. No. 1 E. W. Eberhardt, SW cor. section 13-19-11w, made potential of 846 bbls. after acid treatment. It topped Siliceous lime at 3,306 feet; total depth, 3,356 feet.

Only one new test was reported in Barton County. Darby Petroleum

Corp. No. 3 Kultgen, C N half N half NW section 16-16-12w, was moving in material.

Estimated Production

Estimated daily average production in Kansas for the week ending June 6 and for the preceding week is as follows:

	Barrels	
	June 6	May 30
Oxford City	6,650	6,725
Burrton	12,400	13,525
Ritz-Canton	6,400	6,625
Hollow-Nikkel	3,950	3,950
Voshell	3,075	3,100
Ellsworth County:		
Lorraine-So. Lorraine	4,978	8,298
Other pools	1,040	1,509
Rice-Barton Counties:		
Chase	8,824	9,455
Raymond	3,130	3,812
Silica	5,074	11,677
Keesling	2,332	3,228
Miscellaneous Rice	3,399	4,123
Miscellaneous Barton	2,193	2,337
Russell County:		
Fairport	3,145	2,825
Gorham	2,370	4,070
Russell	844	2,037
Sullivan	2,360	4,335
Other pools	5,118	5,853
Sedgwick County:		
Valley Center	1,337	1,350
Greenwich	1,456	1,414
Robbins	1,542	1,522
Eastborough	828	811
Other pools	383	428
Ellis County	1,221	1,389
Kingman County	632	521
Stafford County	1,346	1,930
Greenwood County	10,000	9,250
Butler County	18,050	17,950
Other fields	21,073	21,226
Total Kansas	135,150	155,275

Ellis County

Winkler & Koch and others No. 1 Hadley, NE NE NW section 21-11-17w, in the Hadley pool of northern Ellis County, made 24-hour potential of 2,037 bbls. of oil and was completed at 3,360 feet, total depth. Siliceous lime was topped at 3,344 feet. Tom Palmer and Storm King Oil Co. No. 1 J. Ruder, SW SW NE section 17-15-18w, in the Ruder area, topped Siliceous lime at 3,539 feet, drilled to 3,551 feet, acidized and made potential of 650 bbls. of oil. Top of Anhydrite was 1,137 feet; Oswald, 3,260 feet. Brunson & Ewers-Simpson No. 1 Gross, NE NE SW section 29-14-17w, wildcat, had a hole full of water at 3,548-58 feet, total depth, and was abandoned. Top of Anhydrite was 1,110 feet; Topeka, 2,960 feet; Oswald, 3,244 feet; Conglomerate, 3,469 feet; Siliceous lime, 3,511 feet.

Two new tests were started in Ellis County. Phillips Petroleum Co. No. 1 Bemis, NE SE NE section 21-11-17w, was a cellar. Kansas Development Corp. No. 1 Haller, SE SE NW section 10-11-18w, wildcat, was moving in material.

Ness County

Continental Oil Co. No. 1 Thompson, C E half E half SW section 13-18-26w, wildcat southwest of the Aldrich area in Ness County, swabbed at the rate of 6 bbls. of oil an hour and was estimated good for 150 bbls. of oil a day. Top of Siliceous lime was 4,446 feet; total depth, 4,462 feet. It was not completed.

Reno County

McPherson Drilling Co. and Derby Oil Co. No. 2 Scheuchzer, NW SW SW section 17-24-4w, in the Burrton area of Reno County, was acidized, flowed 700 bbls. of oil in 20 hours, made potential of 808 bbls. of oil and was completed at 3,390 feet, total depth. Chat was topped at 3,326 feet. Olson Drilling Co. and Shell Petroleum Corp. No. 4 Johnson, C NE NW section 24-23-4w, had Chat at 3,252-3,375 feet, total depth, and flowed 145 bbls. in 24 hours. It was acidized and made potential of 203 bbls. of oil, with a showing of water.

Two new tests were started in Reno County, as follows: Deal Oil & Gas Co. and others No. 7 McElwain, SE NE SE section 34-23-4w, cellar; Magnolia Petroleum Co. No. 4 Rodgers, SE SW SW section 9-26-4w, building rotary rig.

McPherson County

Marathon Oil Co. No. 1 Decker, SW SE SE section 20-21-1w, in the Graber area of McPherson County, topped Hunton lime at 3,285 feet; total depth, 3,299 feet. It swabbed 115 bbls. of oil in one hour. After acidizing, it pumped and flowed 180 bbls. in three hours and on potential test pumped and flowed 1,970 bbls. in 24 hours. Shell Petroleum Corp. and others No. 2 Neufeldt, C S half SE NW section 21-21-3w, an old well deepened from 3,421 feet, topped the Simpson formation at 3,400 feet; faulted into Simpson again at 3,482 feet, and was bottomed at 3,499 feet. It made potential of 60 bbls. of oil, with 60 bbls. of water.

New work in McPherson County: Whan and others No. 1 Osterberg, NE NE NW section 9-19-2w, drilling at 125 feet; Dickey Oil Co. and Gulf Oil Corp. No. 1 Goering, SE cor. section 17-21-1w, location; Marathon Oil Co. No. 3 Decker, SE cor. section 20-21-1w, cellar.

Ellsworth County

Three new tests were reported in Ellsworth County. Carter Oil Co. and others No. 3 Groth, C SW section 23-17-9w, was moving in material. Same operators' No. 5 Ogden, NW NW SW section 26-17-9w, was moving in material. Same operators' No. 1 Mollhagen, C N half N half NW section 35-17-9w, was a location.

Empire Oil & Refining Co. and others No. 1 Janssen "B," SE SE SW section 34-17-8w, north of Geneseo, topped Siliceous lime at 3,216 feet; total depth, 3,258 feet. It made potential of 335 bbls. of oil in 24 hours, then was acidized with 1,000 gallons, but had not been tested after acidization.

Trego County

Watchorn & McNeely No. 1 Hamilton, C SW SE section 14-11-23w, was drilling below 1,243 feet. It was the only new Trego County work reported.

Butler County

The only completion in Butler County was United Oil & Gas Co. No. 2-A Anderson, NE SE SE section 9-27-4. It had Kansas City lime at 1,949-51 feet, total depth, was acidized and pumped 16 bbls. of oil in 24 hours.

Three new Butler County tests were started. Ed Solomon No. 1 Church, SW NE SE section 8-28-5, wildcat, was rigging up machine. Page Houston No. 1-A Eyestone, SW NW SW section 8-23-4, was a cellar. F. G. Hall and others No. 3 Graves, CSL NW NW section 17-29-4, was shut down at 81 feet.

Greenwood County

Ward McGinnis and others No. 1 Ellis, NE NW SW section 34-22-11, in Greenwood County, was shot with 200 quarts, pumped 50 bbls. of oil in 24 hours and was completed at 1,933 feet, total depth. It had sand at 1,848-1,930 feet. S. A. McGinnis and others No. 1-A Jackson, NE SW NW section 25-25-8, pumped 40 bbls. of oil after a shot with 100 quarts and was completed in sand at 2,310-34 feet, total depth.

New work in Greenwood County: Estes and others No. 1 Edgar, NW NW SE section 1-28-8, wildcat, fishing at 1,030 feet; C. Nye No. 2 Morgan, C NE NW section 7-24-12, drilling below 835 feet; Shull Drilling Co. No. 1-A Bowles, SW SW NW section 15-24-13, spudding.

Harvey County

Continental Oil Co. No. 1 Westerman, NW cor. section 5-22-1w, in Harvey County, topped Siliceous lime at 3,523 feet, encountered water at 3,882 feet; total depth, 4,078 feet. It was acidized with 4,000 gallons and completed as a water disposal well. It was estimated it will take 250 bbls. of water an hour.

Woodson County

C. L. Sheedy completed the best producer of the week in Woodson County at No. 6 Klick, NE SW SE section 20-25-14. It had sand at 1,401 to 1,438 feet; total depth, 1,454 feet. It was plugged back to 1,448 feet, shot with 220 quarts, flowed 50 bbls of oil in three hours and then flowed 280 bbls. in 24 hours.

Woodson County Pipe Line Co. No. 7 Winterscheid, SW SW NW SE section 6-24-14, had Mississippi lime at 1,673 feet; total depth, 1,717 feet. After acidizing with 3,000 gallons, it pumped 80 bbls. of oil and 5 bbls. of water, completed. Harper Oil Co. No. 7 Figge, C N half N half S half section 28-23-14, reported for the first time, topped lime at 1,634 feet; total depth, 1,669 feet. It was acidized, pumped 60 bbls. in 24 hours and completed. Alexander & Bell No. 1 Williams, SW cor. section 23-23-14, also reported for the first time, was acidized, pumped 12 bbls. in 24 hours and was completed at 2,646 feet, total depth. Lime was topped at 1,628 feet.

The following new work has started in Woodson County: Quartet Oil Co. No. 5 Otto, NW SW SW section 21-23-14, rigging up machine; Elbar Corp. No. 1 Opperman, NE cor. section 27-23-14, location; Schwarts No. 1 Jones, SW SE NW section 30-23-14, drilling at 1,695 feet.

Sedgwick County

Dickey Oil Co. No. 1 Ayers, SW SW NW section 12-27-2, wildcat in Sedgwick County, had a hole full of water at 3,226-30 feet, total depth, and was dry and abandoned. Top of Kansas City lime was 2,448 feet; Chat, 2,886 feet; Misener sand, 3,221 feet.

Earl Wakefield and others No. 1 Howard, SE SE NE section 25-25-2, wildcat, was a cellar. It was the only new work in Sedgwick County.

Cowley County

Roth & Faurot No. 1 Guthrie, NW cor. section 30-33-8, wildcat in Cowley County, produced 750,000 feet of gas with no oil and was completed. It topped Mississippi lime at 2,732 feet; had a hole full of water at 3,146 feet; plugged back to 2,300 feet and acidized.

Sumner County

Wilcox Oil & Gas Co. and others No. 1 Hess, SE SE NW section 13-34-2w, a wildcat in Sumner County, based the Mississippi at 4,500 feet, and was dry and abandoned at 4,605 feet, total depth. It topped Chat at 4,120 feet; Viola, 4,581 feet; Wilcox sand, 4,584 feet.

The only other Sumner County completion also was a wildcat failure. It was Helmerich & Payne and others No. 1 Elwell, NW NW NE section 18-24-1, dry and abandoned at 3,967 feet, total depth. Stalnaker sand was topped at 2,775 feet; Layton, 3,163 feet; Chat, 3,867 feet.

New Books

The Rise of American Oil, L. M Fanning, Harper & Co., Publishers, New York ($2.50). Starting with a historical background this book in non-technical terms explains the essential part that oil has had in the progress of civilization over the past 50 years. Even those within the oil industry who have endeavored to keep pace with the growth of the industry and the utilization of its products will find many viewpoints and data that are new.

Development within the industry including all of the principal phases of its operations are explained in language that the layman can understand. The significance of the ever-increasing geological information in relation to the discovery of crude reserves is an outstanding feature.

A large part of the book is devoted to the contributions of petroleum products to the growth of industry and science. The utilization angles from the standpoint of power creation, lighting, heating and air conditioning are covered in several chapters with the reader given an outline of future requirements. The final chapter deals with the position of nations with respect to petroleum supplies.

The author for several years was connected with the American Petroleum Institute in charge of its statistical and publicity departments. He has been a frequent writer on petroleum and allied subjects in nationally known publications.

Hot Oil, by Samuel B. Pettengill, Economic Forum Co., New York, ($2.50). This book is more than a description of the illegal operations of those who by one method or another have been able to evade federal and state regulations covering the production and refining of petroleum. It incorporates the observations of the author covering in an interesting manner all those problems of the industry and government which seek to conserve one of the country's most important natural resources. The author was a member of the "Cole Committee" which conducted a Congressional inquiry covering the operations of the industry and William O. Cole, Jr., chairman, writes the introduction to the book. Not an oil man the author attempts to present an unbiased and legalistic picture of the present status of conservation in the oil industry based largely on the several volumes of information which was presented to the committee during its investigation. The scope of the subjects covered in the 300-page book is indicated in the chapter headings. These include: "The Forgotten Man—The Consumer," "Imports," "Stripper Wells," "Law of Capture," "Margold vs. Marshall," and "Uncle Sam—Landlord." The final 90 pages to be devoted to an Appendix in which the views of Calvin Coolidge, Harold L. Ickes, Charles Evans Hughes and several others on the subject of conservation are given.

Know Your Man, by Frank V. Martinek, The Christopher Publishing House, Boston, Mass. ($1.00). A book of 30 pages dealing in a general manner with some of the problems of the personnel director and employment manager. Mr. Martinek is Assistant Vice President in Charge of Personnel for the Standard Oil Co. (Indiana). He is also a Lieutenant Commander U.S.N.R.

West and North Texas

By
L. E. BREDBERG

OPERATIONS INCREASING IN COUNTIES OF PERMIAN BASIN

FORT WORTH, Tex., June 8.—Gaines and Yoakum County wildcats attracted attention this week because one showed oil stains with saturation and the other was high on an important marker.

Landreth Production Co. No. 1 Kirk, located in section 22, Block 21-A, in the southern part of Gaines County, one of the most interesting wildcats drilling in the Permian Basin, is drilling ahead below 4,600 feet in gray lime, after logging oil stains, without any saturation, in the part of lime recovered in the core taken between 4,537-51 feet. Oil saturation was found in the next core of 1 foot, and another core is to be taken in the next soft streak of lime.

This test has been running high in correlations on important markers in a couple of other tests drilled within a radius of 10 miles, which has made the test more interesting.

Yoakum County Wildcat

The wildcat test being drilled by Bahan & Rhodes and others on the Alice Henard ranch, in section 367, Block D, John H. Gibson Survey, 4 miles northwest of Plains and 13 miles northwest of the Bennett discovery in the southeast corner of the county, logged the top of the anhydrite section at 2,279 feet, or approximately 308 feet higher than logged in the discovery well. Elevation of the Henard test is 3,720 feet, and all other markers were expected to be logged higher in this well than in the discovery.

A string of 10-inch casing is being run, after drilling to 2,390 feet, and cable tools are to be rigged up to carry the hole on down.

Swabbing Schleicher Showings

The eastern Schleicher County wildcat test being drilled by the Magnus Oil Co. on the Judkins and Spencer ranch in section 4, W. W. Russell, original grantee, which has been drilling in the Ellenberger member of the Ordovician, topped at 5,902 feet, or 3,693 feet below sea level, is now shut down at 6,223 feet for a swabbing test and to measure the hole. It picked up an increase in salt water after previously striking it at 5,710-30 feet. Oil showings have been logged at 5,905-20 feet, 5,690-5,710 feet and from 5,350-90 feet, and these lime streaks containing showings will no doubt be acidized in an effort to make a deep producer out of the test. Contract called for a 6,500-foot hole or 200 feet in the Ellenberger, and although it is not down 6,500 feet, it is far below the 200 allotted feet in the Ordovician formation, which would allow plugging at the present depth.

Upton County Extension

Last week mention was made of the fact that the Cordova Union Oil Co. No. 1 fee, located about 2 miles southeast of the southeastern extension of the Hurdle producing area in Upton County, had defined the southeastern limits of that extension by proving a dry hole. However, this week Brewer & Smith No. 1 Cordova Union, about one-half mile to the northwest of the dry hole and about 1½ miles southeast of the extended area, is showing for a producer, filling 250 feet with oil from 2,007-10 feet. It is drilling around 2,050 feet in lime and will make a producer. It is located in section 19, Block 1, M. K.&T. Survey.

Loving Wildcat Showing

The Evans No. 1 Johnson wildcat, located in section 12, Block 57, a few miles southeast of a wildcat in the northwestern corner of Loving County which made a small producer a couple of years ago, logged the top of the black lime at 3,119 feet and had an oil and gas showing at 3,174 feet, striking an increase in oil at 3,175 feet. It swabbed 15 bbls. of oil and 30 bbls. of water per day, but the water has been shut off and a test is to be made of the saturated streak to determine whether or not it will make a producer at the total depth of 3,214 feet.

Kimble County Wildcat

The H. F. Wilcox Oil & Gas Co., which last year drilled a dry hole in western Kimble County, is to make another try for production in that area. It now has a derrick up on the H. Spiller lands in the Brooks and Burleson Survey, Abstract 80, in the same county, for a wildcat.

Crane County Wildcat

J. E. Lucas has staked a location for a wildcat in the extreme southern part of Crane County, in an area in which several dry holes have been drilled and where a 7,500-foot test is scheduled to be drilled according to previous reports. This new location is in section 1, Block 31, H.&T.C. Survey, and machine is now being rigged up preparatory to spudding.

Another Duster for Concho

W. C. Nelson and others No. 1 Jim Rice, in section 13, H.&T.C. Survey, eastern Concho County, has been abandoned at 1,974 feet. Elevation is 1,975 feet. This test is about 1 mile northwest of a test abandoned a couple of weeks ago, but which first showed for a producer. The Nelson dry hole logged a showing of oil from 1,956-65 feet but struck sulfur water at 1,974 feet. It showed 150,000 feet of gas at 1,935-40 feet.

Another dry hole was chalked up for Reagan County this week when Bahan and Rhodes No. 1 M. Chase, located in section 40, Block 36, Township 5s, T.&P. Survey, in the northern part of the county, was given up as a failure at a total depth of 3,525 feet. The Twin Oil Co. temporarily abandoned its No. 1 W. E. Green in Tom Green County at a total depth of 3,251 feet. Elevation is 1,892 feet. Glasscock and Howard Counties each received a dry hole this week, while Paul Teas No. 1 J. B. Stewart, in section 2, Block DA, G.C.&S.F. Survey, in Edwards County, was also given up as a failure. Total depth is 5,270 feet and elevation is 1,851 feet. This test was drilled in quest of Ordovician production.

There were 24 tests completed in the West Texas district this week with 35 more locations staked. Locations are running from 35 to 45 each week, the district being the most active in the entire state at the present time, with 368 activities listed in the district. New production for the week totaled 16,768 bbls.

There were 28 completions listed in the North Central Texas district this week, 15 of them proving dry. New production totaled 1,344 bbls.

Fourteen tests completed in the Panhandle district. Two were gas wells and the new oil wells made new production of 5,372 bbls.

NEW OFFICERS OF NATIONAL OIL SCOUTS

Left to right: Claude Strahan, Atlantic Oil Producing Co., Shreveport, La., president; Paul A. Barenkamp, Sun Oil Co., Tyler, Tex., second vice president; Harry Leyendecker, chief scout, Tide Water Oil Co., Houston, Tex., chairman of executive committee; Howard Boyd, chief scout, Magnolia Petroleum Co., Dallas, Tex., re-elected secretary-treasurer, and Maurice Miesse, Phillips Petroleum Co., Shawnee, Okla., first vice president.

WEST CENTRAL TEXAS COMPLETIONS

Brown County

Ehlinger and others No. 2 Armstrong, total depth 1,298 feet, 30 bbls. Ragsdale No. 1 Newton, dry, 1,401 feet.

Callahan County

Arrowwood Oil Co. No. 1 Henderson, dry, 450 feet. Fikes and others No. 2 Jackson, total depth 999 feet, 105 bbls. Hart and Korp No. 1 George, dry, 1,047 feet. Johnson & Hobbs, dry, 1,512 feet. Kleiner & Warren No. 2 Jackson, dry, 1,275 feet. Perry No. 1 Finley, dry, 915 feet. Pueblo Petroleum Co. No. 1-A Snyder, total depth 950 feet, 1 bbl. oil and 30 bbls. salt water. Warren No. 2 Jackson, total depth 1,011 feet, 86 bbls. Watt No. 1 Hickman, dry, 1,329 feet.

Comanche County

Carter No. 1 Haynes estate, total depth 2,725 feet, 13,000,000 feet of gas.

Eastland County

Mook-Texas Oil Co. No. 1-A Sibley, dry, 3,497 feet. Texas Pacific Coal & Oil Co. No. 12 Earnest, total depth 1,901 feet, 26 bbls. oil and 67 bbls. salt water. States Oil Corp. No. 1 Spencer, dry, 1,690 feet.

Shackelford County

Albany Oil Co. No. 9 Davis, dry, 1,803 feet. Baker & Pardue No. 4 Morris and Buie, total depth 1,607 feet, 60 bbls. Bell Oil & Gas Co. No. 1 Davis, dry, 1,852 feet. Gilman No. 15 Jeter, total depth 936 feet, 20

bbls. Grisham & Hunter No. 1 Cloud, dry, 1,242 feet. Groover & Rose No. 1 Davis, dry at 1,747 feet. Hart No. 1 Montgomery, dry, 1,759 feet. Hoffman & Page No. 19 Morris & Buie, total depth 1,601 feet, 10 bbls. Humble Oil & Refining Co. No. 3 Nail 150, dry, 1,634 feet; No. 1-C Nail, dry, 1,610 feet. Keough & Heltzel No. 1 Davis, dry, 1,820 feet. Morlang and others No. 3 Davis, total depth 1,621 feet, 25 bbls. Owens No. 1 Morris & Buie, total depth 1,610 feet, 25 bbls. Ray & Staniforth No. 4 Vickers, total depth 1,598 feet, 260 bbls. Ray & Staniforth No. 5 Vickers, total depth 1,584 feet, 5 bbls. oil, 12 bbls. salt water. Reliance Oil & Royalty Co. No. 2-B Nail, total depth 1,532 feet, 63 bbls.; No. 1 Davis, dry, 1,815 feet. Roeser & Pendleton and Humble Oil & Refining Co. No. 1 Dawson & Conway, dry, 1,683 feet; No. 25-201 Morris & Buie, total depth 1,603 feet, 167 bbls. Tannehill and others No. 30 Mathews, total depth 1,119 feet, 35 bbls. White & Duncan No. 1 Davis, dry, 1,687 feet. Wickman No. 3 Green, total depth 1,104 feet, 6 bbls.

Stephens County

Lone Star Gas Co. No. 4 Brooks, total depth 3,417 feet, 336 bbls.

Palo Pinto County

Crenshaw and others No. 1 Robinson, dry, 1,585 feet. Gordon and others No. 1 Johnson, dry, 3,634 feet. Hickok No. 1 Robinson, total depth 1,536 feet, 36 bbls. Lloyd and others No. 2 Dalton and others, total depth 1,404 feet, 5 bbls.

Tarrant County

Hoffpanier and others No. 1 Dr. W. H. Davis, dry, 1,893 feet.

Throckmorton County

Bearman Oil Co. No. 8 Ledbetter, dry, 780 feet. Warren No. 3 Ledbetter, total depth 762 feet, 3 bbls. Holder and others No. 1 Tuton, dry, 777 feet.

WEST TEXAS COMPLETIONS

Concho County

W. C. Nelson and others No. 1 Rice, dry and abandoned 1,974 feet, elevation 1,975 feet.

Crane County

Gulf Oil Corp. No. 134 McElroy, 2,725-2,925 feet, shot, 1,285 bbls.

Ector County

Devonian Oil Co. No. 1 Blakeney, 4,190-4,240 feet, shot, 66 bbls. per day through three-eighths inch choke.

Howard County

Magnolia Petroleum Co. No. 2 Kelly-Chalk, 2,710-3,020 feet, 70 bbls. on swab. Sinclair Prairie Oil Co. No. 34 Dodge estate, 2,460-2,800 feet, shot, 651 bbls. National Petroleum Corp. No. 1 Edwards, dry and abandoned 3,006 feet, elevation 2,210 feet.

Edwards County

Paul Teas No. 1 J. B. Stewart, dry and abandoned 5,270 feet, elevation 1,851 feet.

Glasscock County

M. B. Stanton and others No. 1 W. P. Edwards, dry and abandoned 2,983 feet.

Martin County

Wright and Scott No. 1 Flannigan, temporarily abandoned 100 feet.

Pecos County

Schermerhorn Oil Corp. No. 1 Pecos Valley, 1,594-1,734 feet, plugged back to 1,699 feet, shot, 25 bbls. Marathon Oil Co. No. 10-D Yates, 1,095-1,293 feet, 5,000 bbls. per hour.

Reagan County

Big Lake Oil Co. No. 183 University, 3,070-3,079 feet, acidized, 214 bbls. Bahan & Rhodes No. 1 M. Chase, dry and abandoned 3,525 feet.

Tom Green County

Twin Oil Co. and others No. 1 W. E. Green, temporarily abandoned 3,251 feet, elevation 1,892 feet.

Upton County

Gulf Oil Corp. No. 4 Sherk, total depth 2,325 feet, shot and acidized, 409 bbls. oil and 36 bbls. water.

Ward County

Westbrook No. 5 Monroe, 2,450-2,575 feet, shot, 221 bbls. Black & Sons No. 4 Gordon, 2,372-2,532 feet, shot, 1,273 bbls. Abell Brothers No. 2 Potts, 2,260-2,355 feet, shot, 346 bbls. Bond & Harrison No. 4-A Maxwell, 2,337-2,530 feet, shot, 1,507 bbls.

Winkler County

Humble Oil & Refining Co. No. 1-B Colby, 2,822-3,183 feet, 279 bbls. Skelly Oil Co. No. 10 Halley, 2,760-2,892 feet, shot, 817 bbls. Sayre Oil Co. No. 8-B Howe, 2,810-2,977 feet, 792 bbls. Humble Oil & Refining Co. No. 7 Howe, 2,810-2,986 feet, shot twice, 2,049 bbls. Henderson No. 1-B Walton, 2,828-3,045 feet, shot, 1,764 bbls.

PANHANDLE COMPLETIONS

Carson County

Gulf Oil Corp. No. 13 Cooper, 3,025-3,065 feet, 566 bbls. pumping, shot.

Gray County

Tom Doswell No. 1 Herndon, 3,296-3,367 feet, 61 bbls. of oil and 37 bbls. of water pumping, shot. Empire Gas & Fuel Co. No. 7 Cunningham, 3,235-3,292 feet, 713 bbls. pumping, shot. Moran Brothers No. 2 Holmes, 3,186-3,190 feet, 563 bbls. pumping. Skelly Oil Co. No. 73 Schaffer Ranch, 3,255-3,336 feet, 920 bbls. pumping, shot.

Hutchinson County

Harry Stekoll No. 2 Dail, 2,960-3,022 feet, 419 bbls. pumping, shot; No. 7-H Whittenberg, 2,890-2,963 feet, 264 bbls. pumping. L. E. Travis No. 1 J. T. Hodges, 3,020-3,082 feet, 481 bbls. pumping, shot.

Wheeler County

Alma Oil Co. No. 3 Perkins, 2,425-2,440 feet, 326 bbls. Dumar Oil Co. No. 1 Hall Macina, 1,605-1,901 feet, 25,400,000 feet of gas. Mert Oil Co. No. 3 Sitter "B," 1,980-2,248 feet, 22,322,000 feet of gas. Phillips Petroleum Co. No. 3 Gregg, 2,060-2,089 feet, 224 bbls. oil and 4,300,000 feet of gas. Skelly Oil Co. No. 20 Johnson, 2,430-2,562 feet, 835 bbls. Smith Brothers No. 4 Sitter "A," 2,472-2,566 feet, 1,581 bbls. oil and 12,300,000 feet of gas.

NORTH TEXAS COMPLETIONS

Archer County

Bonner Co. No. 1 M. Taylor, 717-35 feet, 3 bbls. Huggins Oil Co. No. 1 J. J. Perkins, 660-65 feet, 5 bbls. L. Hedrick No. 1 C. Threet, 1,154 feet, dry.

Cooke County

Anderson & Kerr No. 1 C. A. Stelzer, 2,595 feet, dry. Reese & Pewitt No. 1 A. R. Riddle, 3,109 feet, dry. Leo Moore & Regis No. 2 F. J. Yosten, 959-65 feet, 30 bbls.

Jack County

Bryson Oil & Gas Co. No. 1 Evett, 4,525 feet, dry. Lewis Production Co. and others No. 1 F. Rankin, sand 2,980-3,003 feet, 600 bbls. oil, 2,000,000 feet gas.

Montague County

F.H.E. Oil Co. No. 3 Lauderback A, 1,246-48 feet, 15 bbls.

Wichita County

F. P. Cullum No. 2, S. B. Burnett and others A, 672 feet, dry. Tom B. Medders No. 1 Fassett B, 1,408 feet, dry. Ray Staniforth No. 2 Robinson A, 1,833 feet, junked. The Texas Co. No. 7 Herron, 989-1,060 feet, 56 bbls. Waggoner Refining Co. No. 7 Waggoner AA, 1,584-1,601 feet, 109 bbls.

Wilbarger County

Fain McGaha No. 10 Waggoner Y, abandoned location; No. 12 Waggoner Y, 2,400-11 feet, 120 bbls.

Throckmorton County

L. A. Warren No. 3 J. O. Sanders, 753-61½ feet, 3 bbls.

Young County

Chambers & Humphreys No. 4 Benson, 985 feet, dry. Clarida and others No. 1 W. H. Clarida, 597 feet, dry. Duncan & Holt No. 12 Benson, 900-906 feet, 300 bbls. Leon Gaines No. 1 J. K. Jeffery, 840 feet, dry. Horwitz & Oldom No. 1 Street, 1,020 feet, dry. Kimmell Lea & Co. No. 11 Cullers, 566-73 feet, 10 bbls.

Kriss & Alexander No. 3 Belnap, 647 feet, dry. Moran & Wotola No. 11 Howard, 914-25 feet, 68 bbls. Premier Investment Co. No. 1 C. J. Taack, 762 feet, dry. Pete Tebay and others No. 1 J. Rushing, 1,123 feet, dry. Underwood Drilling Co. No. 18 Campbell C, 939 feet, dry. West & Honea No. 2 Stewart, 835-47 feet, 25 bbls.

Eastern Fields

(Continued from Page 66)

the No. 9 is drilling at 4,495 feet and the No. 10 at 4,731 feet. The United Carbon Co. is down 1,380 feet in the test on the J. Q. Dickinson farm.

In Big Sandy district, the United Carbon Co. is cleaning out at 2,295 feet No. 15 on the J. A. and M. F. Osborne farm, which is to be drilled to the Oriskany sand. It is on the Warfield anticline. The United Fuel Gas Co. has part of the material on the L. D. Updegraff farm for the No. 4,628.

In Loudin district, Godfrey L. Cabot, Inc., is building a road to the location for a test on the Marmet Coal Co. lease. The Owens Illinois Glass Co. is down 4,200 feet in the

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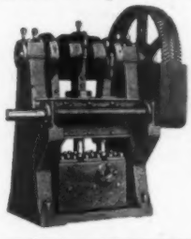

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test on the L. A. Christy farm. In this district, a short log of the Oriskany completion (700,000 feet a day) on the C. C. Dickinson farm is as follows: Big Lime, 1,599-1,785 feet; Big Injun, 1,785-1,840 feet; Corniferous lime, 4,915-5,011 feet; Oriskany sand, 5,011-29 feet.

New Operations

In Cabell County, the Kentucky West Virginia Gas Co. has a rig standing for a second test on the W. E. Farley and others lease on the Guyandotte River in McComas district.

In Calhoun County, J. H. Ferritt is drilling a test on the Ira Heifner farm in Center district. In Sherman district, F. F. McIntosh has part material on the ground for a test on the J. W. Schoolcraft farm on Road Run of Bear Fork. On Sycamore Creek in this district, L. S. Ayers is building a rig for a test on the H. M. Hathaway farm. On Head Pine Creek in Center district, the Hope Construction & Refining Co. has a location for No. 7,742 (a test) on the T. B. Amon farm.

In Braxton County, the Pittsburgh & West Virginia Gas Co. has spudded in the test on the W. L. Hopkins farm in Birch district. This company has made another location in this district which is No. 7,589 on Sleeth Fork on the W. A. Ramsey farm.

In Clay County, E. R. and James Reed have started drilling a well on the W. T. and J. H. Goshorn heirs lease on Right Fork of Sycamore Creek in Union district. On Lick Branch of Middle Creek in Pleasant district, the Elk River Gas Co. has started drilling a test on the James and L. J. Reed farm and on Big Beechy Creek in this district a second test on the Thompson Coal Land Co. lease. S. M. Vockel and others are down 650 feet in the test on the H. Reed heirs farm, Pleasant district.

In Doddridge County, the Pittsburgh & West Virginia Gas Co. has made a location for a test on the I. N. Czigans farm in South West district.

In Gilmer County, Leonard Cain has made a location for a test on the A. L. McClain farm in Center district. In DeKalb district, the Pittsburg & West Virginia Gas Co. has a location for a test on the Nancy McCartney farm on Rock Camp Run.

In Kanawha County, A. E. Cavender and others have a location for No. 3 on the G. W. Harless farm in Elk district. In Big Sandy district, the Falling Rock Cannel Coal Co. has started drilling No. 111 on the J. B. Weir lease.

In Ritchie County, Joseph Griffin has started drilling a test on the C. Johnston farm in Grant district. G. T. McBurney and others are drilling a test on the S. S. Shuman farm, same district. In Union district, the Carnegie Natural Gas Co. has a location for No. 2 on the J. F. Riggs farm.

Southwest Texas Fields

(Continued from Page 67)

tests taken. The sands are at 2,828.5-32 feet and 2,832.5-38 feet.

Results were not yet forthcoming on the wildcat in Zavalla County which showed saturation in the Austin Chalk some days ago. The test, Bay Oil Co. No. 1 National Bank of Commerce, has set casing at 5,724 feet. The test is bottomed at 5,828 feet and the top of the Chalk was hit at 5,717 feet. Elsewhere in the Fault Line zone, Amerada recompleted No. 6 Oppenheimer for about 25 bbls. per hour. No. 6 was the well which came in several weeks ago with the largest Chalk production in this section. It went dead and was reworked for about two weeks.

The detailed drilling and completion report of Southwest Texas fields and wildcats will be found in the section devoted to such reports starting on page 91.

Pennsylvania Grade Annual Meeting

OIL CITY, Pa., June 8.—Speakers at the thirteenth annual meeting of the Pennsylvania Grade Crude Oil Association at State College, Pa., June 18 and 19, will discuss current activities of the Pennsylvania industry in relation to its three-fold program of production, refining and technical research, and marketing. Delegates will inspect the laboratories of the association at State College where rsearch is being carried on.

Baird H. Markham, director of the American Petroleum Industries Committee, will deliver an address on "Petroleum Taxes: A Plan and a Program."

Speakers representing the college will be Dean Frank C. Whitmore and Dr. M. R. Fenske, School of Chemistry and Physics, in which a major share of the association's research is conducted.

John T. McCoy of Bayonne, N. J., chief chemist, Tide Water Oil Co., a member of the association's technical advisory committee, will also speak.

Developments in production will be discussed by C. C. Hogg of Titusville, president, National Petroleum Co., chairman of a committee which advises production research workers.

Marketing phases will be the topic of Dr. H. H. Kynett of Philadelphia, and C. L. Suhr of Oil City, president, National Petroleum Association, and chairman of the board of Pennzoil Co.

T. P. Thompson, Jr., Bradford, president of the association, will speak on "The Year Ahead." Fayette B. Dow of Washington, D. C., vice president and general counsel, and J. E. Moorhead, Oil City, executive secretary, will give reports.

Gulf Coast Fields

(Continued from Page 71)

ter, which was drilled to a depth of 9,602 feet and is now plugging back to sidetrack to redrill to approximate 6,700 feet where considerable oil was recovered on a drill stem test.

Continental Oil Co. is preparing to complete two wells at the Tepetate field in Acadia Parish. No. 2-A Welch in section 28 is bottomed in oil sand at 8,315 feet and the 5¾-inch casing which was set on bottom is being perforated for testing. No. 3 Homeseekers in section 29, is bottomed in sand at 8,320 feet with casing cemented on bottom. On the east side of the field, General Crude Oil Co. No. 1 Vincent has been abandoned at 9,144 feet. Location is in section 31-7s-2w.

Fred H. Moore has been transferred to the Midland, Tex., offices of the Magnolia Petroleum Company. He will be in the geological department at Midland.

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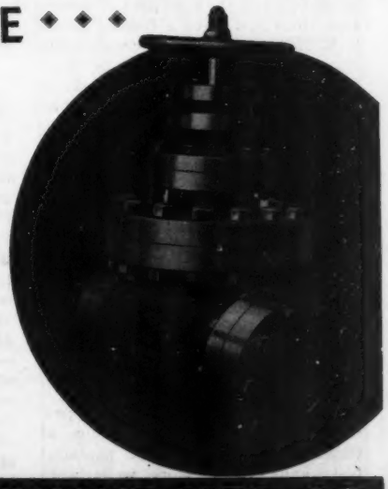

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Oklahoma Operations

By
DAL DALRYMPLE

LIME POOL OPENED IN LOVE COUNTY; CITY REGULATIONS

Several more wells tapped the rich Wilcox pay horizon in the Capitol extension of the Oklahoma City field and steps were taken to offset the intrusion of water in that area, but other pools in the state featured the oil news of the week. Foremost in interest was the Moore pool in Cleveland County, where the state's largest oil well of the year was brought in, and the Marietta district in Love County where a Viola lime pool has been opened. A sizable producer extended the Jesse pool of Pontotoc County, and several producers were completed in the Fitts, South Burbank and Olympic areas. The Moore pool strike is discussed in a separate article in this issue.

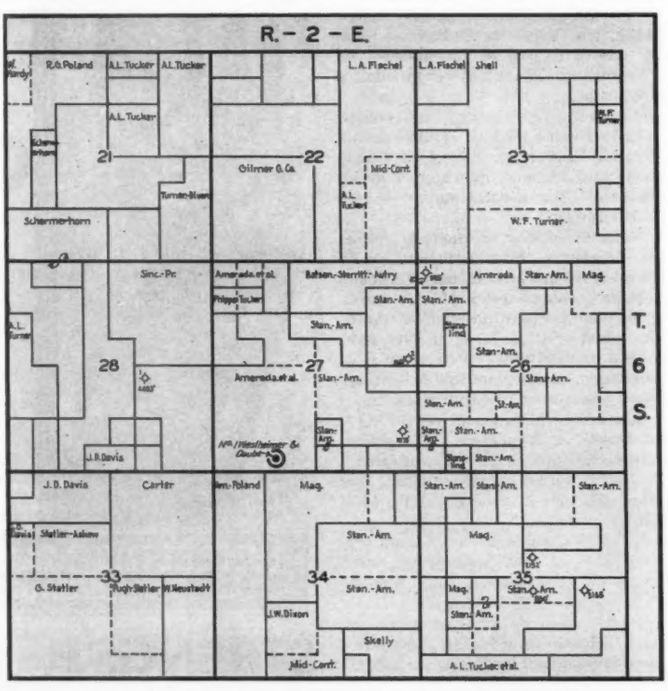
The Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Westheimer & Daube, SW SE SW section 27-6s-2e, northeast of Marietta, was particularly interesting because it is the first well definitely to open an oil pool in Love County. It came in as a Viola lime producer last week flowing 653 bbls. of 38.5 gravity oil through tubing in 6 hours and 20 minutes before being shut in because of inadequate tankage. Later it was opened, and in the 24 hours ending at 7 a.m. June 7 flowed 980 bbls., and in the 24 hours ending June 8 flowed 195 bbls. Originally bottomed at 7,-38[illegible] feet, the wildcat was plugged back to 2,970 feet, the casing ripped and Viola lime acidized from 2,430 to 2,970 feet. The new producer is not the first well to find oil in Love County, that distinction going to the Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW section 26-6s-2w, in the northwest part of the county. The Stockton swabbed approximately 100 bbls. a day from the Deese sand series at about 6,000 feet several weeks ago, but that production was passed up and the well drilled deeper. Operators now have a fishing job at 8,785 feet, total depth. A considerable lease play was reported in Love County and neighboring sections of Carter and Marshall Counties, although acreage in the vicinity of the Westheimer & Daube well is held principally by major companies.

The Jesse Sector

In the Jesse area, Continental Oil Co. No. 1 Monroe, NW SW NW section 12-1-7, extended the pool nearly one-half mile northwest. It topped McLish formation at 4,508 feet, drilled to 4,740 feet and flowed 510 bbls. in 2 hours and 55 minutes. It previously had produced 485 bbls. in 16 hours from Bromide.

As the week ended two big producers in the Capitol extension at Oklahoma City completed potential tests and several more wells were nearing completion. Barnsdall Oil Co. No. 1 Dawson, NE SW NE section 22-12-3w, made potential of 17,392 bbls. of oil, with 19,000,000 feet of gas daily. Total depth was 6,439 feet. Phillips Petroleum Co. No. 1 Liberty, NW SE SE section 22-12-3w, total depth 6,515 feet, made potential of 15,541 bbls. Gas gauged 13,000,000 feet daily. Anderson-Prichard Oil Co. No. 1 Wheeler, SE cor. SW section 15-12-3w, just north of the city limits, was opened for a 24-hour test and flowed 72 bbls. of oil, cutting 30 per cent water.

As a result of the intrusion of salt water in the No. 1 Wheeler and other north edge wells, W. J. Armstrong, state conservation officer, appointed a committee of company representatives to survey the situation in the north end of the extension, collect geological data and report back to the Corporation Commission. The conservation officer issued a set of regulations for the north area, pending hearing before the Corporation Commission June 18. The regulations provided that all wells in the affected area must stop in top of the Wilcox sand and casing set and cemented; all wells must be drilled in with gas and oil mixture or standard tools; no well can be drilled below a depth of minus 5,275 feet without permission of the conservation officer; notice of 24 hours must be given before taking potential on new wells.



Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Westheimer & Daube, SW SE SW section 27-6s-2e, has opened a Viola lime pool in Love County, Oklahoma

(Mid-Continent Map Co., Tulsa, Okla.)

Pontotoc County

Nine of the 12 producers completed in Pontotoc County were in the Fitts field, one at Jesse and two in the Allen area. Completion records follow: Fleetborn Oil Corp. No. 2 Morin, SW SE SE section 20-2-7, topped Hunton lime at 3,534 feet; Sylvan, 3,825 feet; total depth, 3,826 feet; it was acidized and flowed 125 bbls. per hour on three-hour test. Blackstock & Deaner No. 2 Moody, SW cor. section 23-2-7, was acidized with 5,000 gallons, then 10,000 gallons, flowed 552 bbls. in three hours and made potential of 2,700 bbls. Top of Bromide was 4,211 feet; total depth, 4,384 feet. J. E. Crosbie, Inc., No. 3-B Burris, SW SE NW section 27-2-7, topped Hunton lime at 3,255 feet; Sylvan, 3,570 feet; total depth, 3,573 feet. After acid treatment it flowed 873 bbls. through tubing in six hours. Same operator's No. 1-B McKoy, SW NE NE section 28-2-7, was acidized and flowed 821 bbls. in six hours through tubing. Gas measured 3,200,000 feet. Top of Hunton lime was 3,376 feet; Sylvan shale, 3,618 feet; total depth, 3,622 feet. E. H. Moore and others No. 11 Schauers, SW NE NW section 29-2-7, topped Viola lime at 3,830 feet; Bromide, 4,110 feet; total depth, 4,310 feet. It made potential of 2,481 bbls., with 1,500,000 feet of gas. Same operators' No. 4 McKoy, SW SE SE section 29-2-7, was acidized with 8,000 gallons and made potential of 2,152 bbls. of oil. Viola lime was topped at 3,690 feet; Bromide, 3,955 feet; McLish, 4,180 feet; total depth, 4,410 feet. Same operators' No. 8-A Harper, NE NW NE section 29-2-7, made potential of 2,587 bbls. after acidizing with 5,000 and 10,000 gallons. Top of Viola was 3,865 feet; Bromide, 4,140 feet; total depth, 4,290 feet. Carter Oil Co. No. 5 Julia Smith, SE NE NE section 31-2-7, topped Wilcox sand at 4,310 feet, was bottomed at 4,372 feet, flowed 1,547 bbls. of oil in one hour through casing, and made potential of 5,084 bbls. Top of Bromide was 3,840 feet; McLish, 4,000 feet. Same operator's No. 5 Harden, SE NE SW section 30-2-7, an old well, was deepened from 4,120 feet to 4,339 feet, flowed 606 bbls. in six hours through tubing, made potential of 2,864 bbls. and was recompleted.

Other Pontotoc Pools

In the Jesse area, Continental Oil Co. No. 1 House, NW NW SE section 12-1-7, flowed 1,286 bbls. of oil in 3 hours and 45 minutes after a shot and made potential of 3,747 bbls. Gas gauged 2,200,000 feet. Bromide was topped at 4,174 feet; McLish, 4,440 feet; total depth, 4,738 feet. In the Allen sector, Sinclair Prairie Oil Co. No. 10 Ralls, NW NW NE SW section 28-5-8, topped Allen sand at 814 feet; total depth, 823 feet; was shot and pumped 15 bbls. in 24 hours. W. A. Delaney and others No. 3 Harreld, C NE SE section 29-5-8, pumped 24 bbls. in 24 hours after shot; Allen sand was topped at 820 feet; total depth, 860 feet. Sunray Oil Co. No. 4 Shields, NE SW SE section 33-5-8, an old well, was deepened to 1,552 feet and was dry and abandoned.

New work in Pontotoc County: Carter Oil Co. No. 7 J. Smith, SW NE NE section 31-2-7, moving in rig; same operator's No. 8 J. Smith, NW NE NE section 31-2-7, moving in rig; Continental Oil Co. No. 3 Holkum, NW NE SE section 27-2-7, cellar and pits.

Oklahoma County

The following new work was reported in Oklahoma County: Sunray Oil Co. No. 6 State, SE NE NE NE section 27-12-3w, cellar; Knox Garvin No. 1 Kelly Park, NW NW NW SW section 26-12-3w, building rig; Phillips Petroleum Co. No. 4 Stiles, SW NW NE NE section 34-12-3w, cellar; same operator's No. 5 Stiles, NW SW NE NE section 34-12-3w, cellar; same operators' No. 4 Freeburg, SW SW NE NE section 34-12-3w, building rig; Slick-Urschel Oil Co. and others No. 2 Meeker, NE NW NW section 29-13-3w, building rig.

Cleveland County

Two new tests were starting in the Moore area of Cleveland County.

Sinclair Prairie Oil Co. and others No. 1 Strauss, SW cor. section 22-10-2w, was digging cellar; same operators No. 1 Fant, NW cor. section 27-10-2w, was digging cellar.

Estimated Production

Estimated daily average production of Oklahoma for the week ending June 6 and for the preceding week is as follows:

	Barrels	
	June 6	May 30
Allen	8,950	7,700
Asher-West Asher	800	775
Burbank	7,750	7,750
South Burbank	16,500	15,750
Balance Osage	23,500	23,500
Blackwell district	4,875	4,750
Bristow-Slick	8,250	8,250
Chandler	3,950	3,950
Crescent	4,900	5,250
Cromwell	3,700	3,800
Cushing-Shamrock	11,550	11,500
Duncan district	4,025	4,100
Edmond	10,500	12,725
Fish	9,275	9,800
Fitts	52,175	56,475
Gray	1,625	1,650
Graham	4,100	4,100
Healdton	9,300	9,200
Hewitt	4,475	4,500
Holdenville	1,050	1,075
Keokuk	5,975	7,500
Konawa	1,750	1,650
Lucien	13,100	13,500
Marshall-Lovell	975	975
Oklahoma City	134,775	110,575
Olympic	7,925	7,600
Papoose	1,025	1,050
Polo	3,150	3,550
Sasakwa and townsite	3,825	3,975
Sholem-Alechem	3,575	3,625
Seminole field:		
Bowlegs	12,725	13,250
Carr City	6,900	7,200
Earlsboro	7,275	7,325
South Earlsboro	825	950
East Earlsboro	10,800	10,825
Little River	12,875	13,375
East Little River	975	1,175
Maud	975	850
Mission	2,600	2,575
Seminole	11,525	11,350
East Seminole	3,025	3,300
Searight	4,525	5,650
Total Seminole	75,025	77,825
St. Louis-Pearson	25,800	26,375
Tatums	3,325	3,425
Tonkawa-Garber-Thomas	5,450	5,450
Wewoka	4,050	3,925
Yale-Jennings	3,975	4,000
Other pools	62,500	60,000
Total Oklahoma	547,450	531,600

Hughes County

Two of the four new Hughes County producers were in the Olympic pool. J. A. Chapman No. 3 fee, SW NE NW section 1-9-8, had Senora sand at 1,683 feet; total depth 1,714 feet, was shot with 30 quarts and flowed 150 bbls. in 12 hours. Sinclair Prairie Oil Co. No. 11 Oliphant, SE NE SE section 1-9-8, flowed 105 bbls. in 13 hours after topping sand at 1,637 feet, drilling to 1,680 feet and shooting. Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Stewart, SE SE NW section 31-9-9, topped Misener sand at 4,013 feet; Hunton lime, 4,055 feet; total depth, 4,059 feet. It flowed 353 bbls. of oil, with 48,000,000 feet of gas, in 14 hours. Later, it flowed 556 bbls. in eight hours through casing. Texas Co. No. 1 Canard, C NW NW section 9-8-10, had Cromwell sand at 3,106-56 feet; second Cromwell at 3,187-93 feet; total depth, 3,195 feet. It had a showing of oil but produced 5,000,000 feet of gas and was completed as a gasser.

New Hughes County work: J. A. Chapman No. 5 fee, SE NW NW section 1-9-8, set 10-inch casing at 47 feet; Sinclair Prairie Oil Co. No. 12 Oliphant, NE SE SE section 1-9-8, rigging up rotary; George Manahan No. 7 Oliphant "B," NW NE SE section 11-9-8, location.

Seminole County

Nine completions in Seminole County included four producers and five failures. Sinclair Prairie Oil Co. No. 1 Lustey, NW NE NE section 13-5-7, had sands at 2,540-50 feet and was bottomed in top of Wapanucka at 2,775 feet. It pumped 17 bbls. of oil and 15 bbls. of water in 24 hours. Francis Oil Co. No. 3 Hall, NW SE SW section 19-5-6, was acidized and flowed 150 bbls. in the first 24 hours. It topped Hunton lime at 2,361 feet; Sylvan shale, 2,539 feet; total depth, 2,540 feet. Vierson-Roodhouse No. 1 Davis, NE SE NE section 10-6-6, had sand at 2,410 feet, drilled to 2,460 feet, plugged back to 2,414 feet, was shot and swabbed 122 bbls. in the first 24 hours. Carter Oil Co. and others No. 1 Warrenburg, C W half NW SE section 11-10-6, flowed 242 bbls. in 18 hours before acidizing and made potential of 870 bbls. after acidizing. Top of Misener sand was 4,113 feet; Hunton lime, 4,127 feet; total depth, 4,134 feet.

Irvin Wilson & Reynolds Drilling Co. No. 1 Casey, SW NE NE section 25-6-7, was dry and abandoned at 3,300 feet, total depth. Top of Wapanucka was 3,010 feet; Cromwell, 3,150 feet. Sunray Oil Co. No. 1 Williams, NW SE SE section 13-8-6, topped Hunton at 3,940 feet; Sylvan, 3,945 feet; Viola, 4,055 feet; Dense, 4,101 feet; Dolomite, 4,115 feet; Wilcox, 4,150 feet, and was dry and abandoned at 4,157 feet, total depth. Vierson & Hayes Drilling Co. No. 1-A Fixico, C NW NE section 26-9-6, topped Calvin sand at 2,420 feet, encountered water and was dry and abandoned at 2,535 feet, total depth. Pioneer Drilling Co. and Phillips Petroleum Co. No. 1-A Fixico, C N half S half NE section 26-9-6, tested dry after plugging back to 3,818 feet to shut off water, although it had swabbed 50 bbls. of oil gross in 18 hours after acidizing. Top of Hunton was 3,863 feet; Sylvan, 3,868 feet; total depth, 3,873 feet. Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Alexander, NE NW NE section 14-9-7, topped first Wilcox sand at 4,318 feet; second sand, 4,364 feet; total depth, 4,373 feet; plugged back to 3,434 feet; had salt water at 3,478 feet and was dry and abandoned.

New Work

Work starting in Seminole County was as follows: J. E. Crosbie, Inc., and Blankenship & Quiett No. 1 Biggers (Casey), C N half N half NE section 30-6-8, rig completed for a Wilcox sand test east of the Sasakwa townsite area; Fleetborn Oil Co. No. 2 Fleet, SE SE NW section 12-5-7, building rig; Sinclair Prairie Oil Co. No. 4 Cully, NW NE NW section 13-5-7, cellar and pits; Texas Co. No. 3 Steward, SE SW NE section 19-9-7, old well plugged back from 3,501 feet to 3,494 feet, waiting on cement; same operators No. 5 Steward, NE SE NW section 19-9-7, building rig; Deep Rock Oil Corp. No. 1 Lozier, NE SW NW section 20-9-7, old well plugging back, running tubing; Gulf Oil Corp. No. 1 Scott Fife, C W half NE NW section 11-10-6, old well deepened to 4,183 feet, to acidize; Carter Oil Co. No. 2 Browning, C W half SW SW section 14-10-6, location.

Pottawatomie County

Smith & Scott No. 2 Goodwin, NE NE NW section 3-7-4, was the only new producer completed in Pottawatomie County. It topped Hunton lime at 3,979 feet; Sylvan, 4,044 feet; Viola, 4,125 feet; Dense, 4,184 feet; Dolomite, 4,228 feet; total depth, 4,266 feet; plugged back and completed at 4,050 feet, pumping 16 bbls. of oil in 10 hours. Haliburton No. 2 Pierson, SE SE NE section 9-7-4, an old well, was plugged back from 3,720 feet, ripped casing, shot it with 20 quarts, set packer at 3,361 feet and it flowed 32 bbls. of oil in 40 minutes through tubing, and then 60 bbls. in 24 hours, recompleted.

Two new Pottawatomie operations were reported: Producers, Inc., No. 3 Cardwell, NE SW NW section 15-7-4, rig and moving in tools; Magnolia Petroleum Co. No. 1 L. Green, SW SW NW section 13-7-4, old well deepened from 4,370 feet to 4,379 feet, pumped 549 bbls. of oil and 60 bbls. of water in 24 hours.

Okfuskee County

Operators in Okfuskee County were rewarded with only one small producer in four completions the past week. R Staples No. 4-A Brown-Wilson, SW NW SW section 22-12-11, drilled to 1,854 feet, plugged back to 1,849 feet, and pumped 5 bbls. of oil and 5 bbls. of water in 24 hours. Stekoll & McCann No. 3 Detzler, SW NE NE section 2-10-11, was dry and abandoned at 1,670 feet, total depth. W. B. Looney No. 1 Looney, SW NW SW section 13-10-11, had Booch sand at 2,060-80 feet, total depth, and was dry and abandoned. Kirkpatrick & Moffett No. 1 Durant, C N half NW NE section 35-11-11, an old well, was deepened to 2,507 feet and was dry and abandoned.

New work in Okfuskee County: Carter Oil Co. No. 2 King, C SE SW section 2-11-8, building rig; Morton Oil Co. and O. C. Moffitt, NW SE SE section 23-11-11, location; B. Greenfield and others No. 1-A Rentie, NW NW SE section 24-12-11, showing oil and gas at 1,832 feet, total depth.

Lincoln County

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 S. M. Lewis, SE SW SE section 32-15-3, in Lincoln County, flowed 1,036 bbls. in 23 hours through casing and was completed at 5,060 feet, total depth. Dolomite was topped at 5,026 feet; Wilcox sand, 5,058 feet. Magnolia Petroleum Co. No. 3 Epps, NW SE SE section 32-15-3, topped Dolomite at 5,080 feet; Wilcox sand, 5,095 feet; total depth, 5,113 feet; bailed water and plugged back to 4,400 feet; tested

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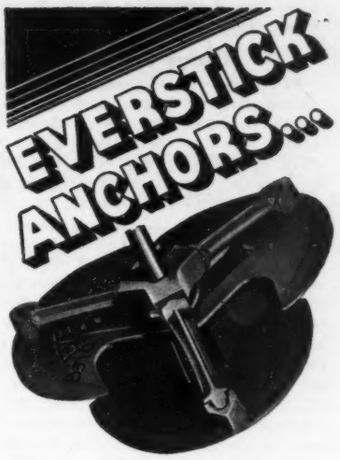

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True and Bartlesville sands, found them dry and was abandoned.

Osage County

Five Osage County completions included two producers each in the South Burbank and Naval Reserve areas. Kewanee Oil & Gas Co. No. 7 Renald, NW NE SW section 26-26-6, topped sand at 2,854 feet; total depth 2,938 feet; produced 6,000,000 feet of gas and flowed 1,193 bbls. of oil naturally in 24 hours. Lewis Production Co. No. 2 Callahan, SW SE SW section 23-26-6, topped Bartlesville sand at 2,831 feet; total depth 2,907 feet. It was shot with 120 quarts and flowed 3,350 bbls. in the first 24 hours, with 4,000,000 feet of gas. It later made potential of 2,013 bbls., but was penalized 50 per cent for shot and given an allowed rate of flow of 1,006 bbls. Texas Co. No. 13 Osage, C W half NE NW section 28-26-6, had Bartlesville sand at 2,893 feet; total depth 2,940 feet. It had a showing of oil but was completed as a repressure well.

Lewis Production Co. and Continental Oil Co. No. 10 Ah-Ka-Me, SE NW SE section 9-24-7, flowed and swabbed 349 bbls. in 24 hours after a shot with 80 quarts. Top of Bartlesville sand was 2,565 feet; total depth, 2,637 feet. Same operators No 11 Ah-Ka-Me, SW NE SE section 9-24-7, topped Bartlesville sand at 2,515 feet; total depth, 2,594 feet. It was shot with 80 quarts and flowed 427 bbls. in 24 hours.

New Osage County work follows: A. H. Pettigrove No. 7 Osage, C E half E half SE section 11-23-11, location; Champlin Refining Co. No. 3 Parker, SW SE NE section 22-25-6, building rig; Indian Territory Illuminating Oil Co. No. 36 Osage, NE cor. section 36-25-9, location; Kewanee Oil & Gas Co. No. 1 Blaine, SW SW SE section 23-26-6, location; Lewis Production Co. No. 3 Calahan, SE SE SW section 23-26-6, building rig; same operators No. 4 Calahan, SE SW SW section 23-26-6, location; Skelly Oil Co. No. 4 Smith, NW NE NW section 26-26-6, building rig.

Pawnee County

O. H. West and others No. 2 Walls, NE cor. section 5-20-8, was the only Pawnee County completion. It had sand at 1,449 feet; total depth, 1,461 feet; was shot with 30 quarts and pumped 6 bbls. in 24 hours.

One new Pawnee County test was started. J. R. Reynolds No. 3-A Downing, SW NW SE section 24-20-8, was drilling below 200 feet.

Logan County

Two new tests were reported in Logan County. Continental Oil Co. No. 3 McConnell, SW SE SE section 28-17-4w, was digging cellar. Carter Oil Co. and Gulf Oil Corp. No. 3 Walker, NW NE NE section 33-17-4w, was a location.

Noble County

Phillips Petroleum Co. and Shell Petroleum Corp. No. 2 O'Neill, SW SE SE section 16-23-2w, in the Billings area of Noble County, flowed 593.50 bbls. through tubing in four hours of potential test, made potential of 3,561 bbls. and was completed. Gas measured 9,250,000 feet. Wilcox sand was topped at 4,217 feet; total depth 4,245 feet. Shell Petroleum Corp. No. 4 Moelling C-26, SW NE SE section 17-20-2w, in the Lucien pool, made potential of 1,774 bbls., with 6,500,000 feet of gas, and was completed at 5,195 feet, total depth. Top of Wilcox sand was 5,130 feet.

One new Noble County test was reported. Phillips Petroleum Co. and Shell Petroleum Corp. No. 2 McCaughtry, NE NW NE section 21-23-2w, was a location.

Alfalfa County

Tex-O-Kan Oil Co. No. 1 Acre, C SW NE section 14-24-11w, wildcat in Alfalfa County, has been abandoned at total depth of 7,332 feet. It was an old well originally bottomed at 5,530 feet, but at which deepening was begun early in 1935. It topped Dolomite at 7,234 feet; Wilcox sand, 7,259 feet. Cores tasted salty and it was plugged back to 6,720 feet before abandoning.

Coal County

Carter Oil Co. and Magnolia Petroleum Corp. were building rig for No. 1 M. James, SW NW SW section 35-1s-8, wildcat south of Clarita in southwestern Coal County.

Marshall County

Levelle Coal Co. No. 5 Brent, NW NW SE section 1-8-5, Marshall County, had sand at 548 feet; total depth, 567 feet; pumped 4 bbls. of oil in 24 hours and was completed.

Carter County

Completions in Carter County included five new producers, one old well deepened and two dry holes. Texas Co. and others No. 1 Cathey, SE NE NE section 6-5s-1w, wildcat southeast of the Hewitt pool, was completed as an 18-bbl. pumper. It had sands at 4,098-4,120 feet and 4,135-55 feet; total depth, 4,191 feet.

Other Carter County completions follow: Simpson-Fell Oil Co. No. 1 Davis, NW cor. section 9-2s-2w, had several sands, was bottomed at 1,900 feet, plugged back to 1,800 feet, and pumped 40 bbls. of oil and 20 bbls. of water. Cox & Hamon No. 1 Cassidy, NE NW SE section 6-2s-2w, produced 76 bbls. in 24 hours and was completed at 2,500 feet, total depth. It had several sands. Louis Sikes, Inc., and Carter Oil Co. No. 1 M. Byrd, SE cor. section 5-2s-2w, had sand at 1,506-16 feet; total depth, 1,608 feet; and pumped 17 bbls. in 24 hours. Samedan Oil Co. No. 1 McKinney, NE SE SE section 5-2s-2w, had sand at 1,434-45 feet, drilled 1 foot deeper and pumped 16 bbls. in 24 hours. Jones Brothers and others No. 4 Humble-Dillard, NE SW SE NE section 22-4s-2w, an old well, was deepened from 1,467 feet to 2,596 feet, pumped 15 bbls. of oil and 30 bbls. of water and was recompleted. Shell Petroleum Corp. No. 66 Wirt Franklin, SE SE NE section 8-4s-3w, was dry and abandoned at 1,306 feet, total depth. Samedan Oil Co. No. 1 Akers, NW SW SW section 4-2s-2w, was abandoned at 1,726 feet, total depth.

New work in Carter County was as follows: Louis Sikes No. 2 Byrd, NW SE SW section 4-2s-2w, rigging up rotary; Samedan Oil Co. No. 1 Eaves, SW SE NE section 6-2s-2w, moving in material; Simpson-Fell Oil Co. No. 1 Merrick, SW SE NE section 9-2s-2w, plugging back from 1,518 feet to 1,450 feet, to whipstock; Magnolia Petroleum Co. No. 15 Richard, NE SW NE NE section 5-4s-3w, old well deepening, drilling at 971 feet; Twin State Oil Co. No. 3 Cochneur, NE SE SE NW section 8-4s-3w, old well deepening, drilling at 1,087 feet; Jones Brothers and others No. 7 Humble-Dillard, NE SW SE NE section 22-4s-2w, old well preparing to deepen.

Creek County

Creek County completions follow: Riverland Co. No. 1-A Burgess, SW cor. section 32-15-9, total depth 1,274 feet, pumped 25 bbls. of oil; Big Four Petroleum Co. No. 3 Briggs, SW cor. section 35-19-8, had Red Fork sand at 2,611-38 feet, total depth 2,644 feet, plugged back and flowed 40 bbls. of oil; Irik Oil Co. No. 2 Hawkins, SW NE SW section 15-18-8, abandoned in Bartlesville sand at 2,858 to 2,862 feet; Curtis Oil Co. No. 1 Kelly, NW NW SW section 5-18-9, abandoned in Bartlesville sand at 2,507 to 2,607 feet; Bert Swift No. 4 King, SE NW SW section 7-18-10, abandoned in sand at 2,247 to 2,342 feet.

Old wells deepened and recompleted were as follows: Sinclair Prairie Oil Co. No. 1 Kernal, SW SW NE section 30-14-8, deepened from 3,425 feet to Wilcox sand at 4,001-23 feet, produced 200 bbls. in 24 hours; same operators No. 5 Jones, SE SE NW section 4-17-7, deepened from 2,612 feet to 2,771 feet, plugged back to 2,710 feet and pumped 32 bbls.; Skelly Oil Co. No. 1 Carr, NW SW SE section 30-15-9, deepened from 3,028 feet to Wilcox sand at 3,569-71 feet and total depth of 3,582 feet, acidized, and pumped 50 bbls.; Royal Oil & Gas Co. No. 9 Knoll, C NE SW section 22-16-8, old total depth 3,116 feet, had Wilcox sand at 3,671-3,707 feet, abandoned.

The following new work in Creek County was reported: Sand Springs Home No. 29 Anthers, CWL NE section 5-18-7, rig; A. B. Ice No. 1 Sandlin, C SE NE section 6-17-10, old well cleaning out to deepen; Sinclair Prairie Oil Co. No. 1 Rermal, NW NW SE section 30-14-8, old well rigging up to deepen.

Wagoner County

Thomas and others No. 1-A Atkins, SW NW NE section 16-17-15, in Wagoner County, had sand at 1,225 to 1,347 feet, total depth 1,352 feet, pumped 6 bbls. of oil in 24 hours and was completed. Moore No. 1 Nave, NE SW SW section 9-17-15, was dry and abandoned in sand at 1,950 to 1,965 feet.

Tulsa County

Mechling No. 1-A well, C NE section 14-19-13, was the only Tulsa County completion. It had sand at 923 to 950 feet and pumped 15 bbls. of oil in 24 hours.

Two new Tulsa County tests were reported: Boyd No. 1-A Carr, NE cor. section 23-18-14, rigging up machine; Childs No. 2-A McKee, CWL NE NE section 17-19-10, drilling below 900 feet.

Okmulgee County

Klingensmith No. 16 Farr, SW SE NW section 36-16-11, flowed 180 bbls. of oil from Dutcher sand at 2,305 to 2,330 feet and was completed. Other Okmulgee County completions: Aggis Drilling Co. No. 4-A McKinney, CWL NW SW section 16-15-14, had sand at 833 to 854 feet and pumped 25 bbls. of oil; Acme No. 4 Rentie, NE NW SW section 19-14-15, was abandoned at 1,225 feet, total depth; Reliance Oil Co. No. 6 Anthis, CEL NW NE section 27-16-11, flowed 15 bbls. of oil and produced 2,000,000 feet of gas from sand at 2,445-60 feet; Klingensmith No. 15 Farr, NW NE NW section 35-16-11, was abandoned in sand at 1,805 to 1,860 feet.

New work in Okmulgee County: Sinclair Prairie Oil Co. No. 1 Houston Tank Farm, C SE NE section 14-17-12, location; Adkins No. 1-A Clayton, CEL NE section 36-16-11, cleaning out in sand at 1,706-59 feet; McBrayer No. 3 Tucker, C NW NW section 9-15-14, location; Cusack No. 1 Scott, SE SW SE section 28-15-11, location; Keithley and others No. 2 Harris, SE SW NE section 1-14-14, drilling below 450 feet.

Grady County

Ray Stevens No. 1 Mays, NE cor. section 1-3-8w, was building derrick for a wildcat test southwest of Rush Springs, Grady County, on surface geology by Clyde Becker. Carter Oil Co. No. 2 White, SW SE SE section 23-5w, an old well being deepened, was drilling at 1,810 feet.

Stephens County

Mudge Oil Co. No. 5 Anderson, SE SW SW section 10-3s-5w, in the Loco area of Stephens County, had sand at 1,443-50 feet, total depth, pumped 15 bbls. of oil in 24 hours and was completed. George L. Pace and others No. 4 Duncan, NW NW NE section 28-2s-7w, pumped 5 bbls. in 24 hours and was completed at 1,312 feet, total depth. It had sands at 1,272 feet and 1,278 feet.

New work in Stephens County: Winkler & McQueen No. 1-C Bristow, SE SE NW NW section 18-2s-7w, derrick; George Pace and others No. 5 Payne, NE NE NW section 28-2s-7w, waiting on cement at 1,686 feet; same operators No. 6 Payne, SE NE NE NW section 28-2s-7w, location; Mudge Oil Co. No. 6 J. Anderson, NE SE SW SW section 10-3s-5w, drilling at 635 feet.

Southwestern Oklahoma

Completions in other southwestern Oklahoma counties follow: In Kiowa County, Atlantic Oil Producing Co. No. 1 Ta-Home, NE NW NE section 24-7-16w, wildcat, dry and abandoned at 1,354 feet, total depth; J. C. Shaffer and others No. 1 Stone, SW NE NE section 34-7-17w, dry and abandoned at 2,095 feet, total depth; W. C. Adams and others No. 2-A Stone, SE SE NE section 34-7-17w, dry and abandoned at 1,193 feet, total depth. In Jefferson County, Long, Yingling & Lauck No. 19 Seay, C S half SW SE section 3-7s-5w, had three sand and lime series, was bottomed at 1,267 feet, and pumped 25 bbls. of oil in 24 hours. In Cotton County, Shasta Oil Co. No. 12 Cobb, SW SE NE section 2-2s-10w, had sand at 2,150-65 feet; total depth, 2,170 feet; and pumped 20 bbls. of oil in 24 hours.

In Jackson County, Pioneer Oil Co. No. 1 N. Rawls, SW NW NE section 26-1n-20w, wildcat, was an abandoned location; Gulf Oil Corp. No. 1 Southern, NE SE SE section 31-1n-19w, an old well deepened from 2,738 feet to 2,813 feet, pumped 5 bbls. of oil and 12 bbls. of water and was recompleted without having increased production; same operators No. 3 Eley, NE NW SE section 10-1n-20w, had granite wash at 1,400-35 feet and 1,447-90 feet; total depth, 1,523 feet, and pumped 35 bbls. in 24 hours; Associated Oil Co. No. 1-A Harrell, NE NE SE section 13-1s-21w, wildcat, was dry and abandoned at 1,360 feet, total depth.

New work in southwestern Oklahoma follows: In Kiowa County, Bob Burns No. 1 Noskey, NW cor. section 1-6-17w, drilling at 130 feet. In Jefferson County, Long-Yingling

(Continued on Page 90)

East and East Central Texas

TALCO OPERATIONS SPREAD; TWO WILDCATS SHOWING OIL

By L. E. BREDBERG

DALLAS, Tex., June 8.—A showing of oil in wildcats in southern Rusk and northeast Red River County during the past week drew attention of operators and companies interested in those areas. The organization of a new operating company in the East Texas field, with an interesting outpost location staked southwest of the Talco field, in eastern Franklin County, were other high lights in the East Texas district during the week.

Earl Bateman is moving in rig about 4 miles southwest of Talco in eastern Franklin County, branching out in outpost area to seek production in the Paluxy sand, member of the Trinity, from which wells are producing in the Talco area. This location is on the E. Phillips farm in the William Birdwell Survey.

Another interesting test due to start in the Talco sector is that of the Manning-Texforniz Oil Co. on the Hocker and Hughes tract in the M.E.P.&P. Survey, about 9 miles northeast of Talco and across the river, in Red River County. Dale Sneed has purchased a substantial interest in the block and test and is now moving in heavier rig and another boiler to start. The operation has been shut down for several weeks after drilling to 200 feet and setting surface pipe. There are about 9,000 acres in the block. The test is to go to the Paluxy sand and possibly the Glen Rose, lower member of the Trinity. Contract calls for a 4,500-foot hole. Claude Dally, consulting geologist of Fort Worth, worked the subsurface geology on the area.

Trinity Test Testing

The Trinity sand test being drilled by the Pure Oil Co. on the W. H. Faulkner lands in the William Survey, east of Mount Enterprise in southern Rusk County, logged some saturated oil sand to total depth of 6,297 feet, and tried making three drill stem tests, all of which failed when packers did not hold. A fourth test is now being made. It is on an elongated block on which acreage around and near the test sold and is selling at extraordinarily high prices. Some 13 feet of sand was reported to have been cored in the test, although the main pay horizon is not expected until a much greater depth is reached. The first two tests were made from 6,254-97 feet, and a third one was made after reaming hole deeper, all failing.

Red River Showing

Harrison & Abercrombie No. 3 Southern Pine Lumber Co., in the D. D. Bruton Survey, 10 miles northeast of Clarksville, Red River County, which topped the Georgetown lime at 665 feet, attracted attention during the week when it showed considerable oil with mud and salt water when drill stem test was made at 2,103-11 feet, showing 1,500 feet of fluid in 24 minutes, about half of which was mud and water and the remainder salt water. The hole is to be carried deeper, and the pay is expected to be contacted between 2,400 and 2,500 feet. Saturated oil sand was cored at 2,104 feet, recovering a little over 4 feet of such sand, with another couple of feet lost which was considered to be sand according to the way it drilled. Some gas was developed with the oil, the test looking like a possible producer from this sand until the salt water showed up to dampen prospects. The oil was heavy, but slightly lighter brown in color than the Talco low gravity crude in Titus and Franklin County. Total depth of the hole is 2,111 feet. Dilworth Hager of Dallas geologized the area, the Geophysical Service, Inc., of Dallas, "shooting" the block, in which the operators retained between 2,000 and 3,000 acres. A former test in this area had good oil showings, which prompted the drilling of this test.

Talco Discovery Showing Water

The Talco pool discovery in northwestern Titus County, Peveto and others, now the Pleasant Oil Co. No. 1 Carr, in the M. V. Delgado Survey, which has been deepening from the past total depth of 4,208 feet in the Paluxy sand, was bottomed at 4,460 feet the latter part of the week, showing 800 feet of water in the hole at that depth. It was formerly completed as a pumper, making better than 300 bbls. a day. Since deepening it has started flowing. Water will probably be shut off in the discovery well and a better well, at least a flowing well, made out of it when it is recompleted.

No completions were reported in the Talco pool this week, but Ownby Drilling Co. No. 1 Jones, in the Talco townsite, which cut the fault at 4,000 feet last week, which is low according to correlations on other producers in the pool, is due to be completed this week. It was reported to have cored 60 feet of sand, which gives other tests farther to the north plenty of chances of producing, although their sand sections will undoubtedly be thinner.

The Ownby test is waiting on cement to set after setting casing around 4,340 feet. The sand was cored between 4,232-4,340 feet.

Sanders and others (Nemo Oil Co.) No. 1 Talco School Lot, just southeast of the Talco townsite, is flowing from sand logged at 4,338-40 feet. Seven-inch casing was set at 4,149 feet. This test is a little over a quarter of a mile southwest of the discovery well. The sand was topped at 4,185 feet, and elevation is 372 feet. The fault was cut in this test at 3,041 feet. It will probably be completed this week.

Hopkins Wildcat

Dilworth Hager and associates are to drill a test in the A. O. Wetmore Survey, about 18 miles southwest of Talco in Hopkins County.

An active lease campaign has been taking place again along the fault plane through Hopkins County, west of the Talco pool. In one area where the fault cut closure was found on a structure and active leasing caused prices to go as high as $50 and $60 per acre when companies and independents started competing with each other for the acreage. This is in absolute wildcat area, but the closed structure prompted the high prices.

Left to right: Ben H. Ravanelli, sales engineer, Oil Well Supply Co., Greggton, Tex.; W. H. Taylor, division superintendent, and L. H. Moore, production foreman, Gulf Oil Corp., East Texas; Frank Thyng, store manager, Oil Well Supply Co., and John Cooper, petroleum engineer, Gulf Oil Corp., at Kilgore, Tex.

Fannin Wildcat

J. W. Ginsberg is drilling a wildcat test on the Moore farm in the Crenshaw Survey, about 4 miles north of Leonard in Fannin County, a test drilled in this area previously by the Danciger Oil & Refining Co having reported oil showings around 1,178-81 feet, which no doubt prompted the drilling of this second wildcat in the area.

More Talco Townsite Locations

There were four more permits issued for tests in the Talco townsite in northwest Titus County, and drilling operations on the small tracts and townsite lots will no doubt increase since the Railroad Commission hearing was adjourned at Austin this week without taking up anything of importance in regard to spacing, prorating, or producing the field. In the meantime many holes are expected to be started and completed on the town lots and small tracts in the area. This week P. H. Torrans and W. B. Connally, both of Tyler, made location for No. 1 W. O. Keith in Lot 3, Block 28; H. L. Elam of Dallas made location on the J. R. Dyer tract in Lot 12, Delgado Survey; Al Revenger made location on the N. Garger tract in Lot 4, Block 13, and J. C. Burnet of Gladewater is to drill on Mrs. A. V. McElroy's tract in Lot 8, Block 1. All are townsite locations.

M. C. Caston of Corsicana has permit to drill on Lot 3, Block 29, Talco townsite and I. N. Williams and A. Boggess, of Mount Pleasant, have permit to drill on Lot 2, Block 37, in the townsite. J. M. Singleton of Jefferson and A. M. Yost of Tyler, Tex., R. L. Pruett of Winona and J. E. Amis, Jr., and J. H. Mitchell of Tyler, all have permits to drill Talco townsite tests. E. M. Clem and others, also of Mount Pleasant, have a permit. It is expected that practically all of these will result in wells started within 30 days.

Bowie Wildcat

Fay T. Chew, of Dallas, has made location for a wildcat on the B. Barkinson lands in the J. Parkman Survey, Bowie County.

East Texas Field

This week there were 42 locations staked, 27 derricks up, 10 rigging up, 95 drilling, 35 shut down and 5 temporarily abandoned, making a total

list of 214 activities in the field. There were 65 tests completed in the field. There were 20,655 wells in the field on June 4, with 62 wells standing "dead." Production has been averaging around 437,500 bbls. per day during the week, with wells completed this week producing an initial

L. K. Hamilton of Hamilton & Ellis, Kilgore, Tex.

of 2,052 bbls. in all wells completed in this field producing through tubing choke except when they are pumpers or swabbers.

New Corporation

A new corporation has been formed by R. G. Trippett and A. H. Meadows of Shreveport and J. W. Gilliland of Tyler. They have formed the General American Oil Corp., the assets of which are said to aggregate around $10,000,000. The new company owns more than 200 miles of gathering lines in the field, 600 well connections, 255 producing oil wells, three refineries and two natural gasoline plants operated in conjunction with the refineries. Headquarters of the new company will be in the Slattery Building at Shreveport, La. Mr. Gilliland is to be chairman of the board of directors, Mr. Trippett, president and Mr. Meadows vice president and secretary-treasurer.

EAST TEXAS COMPLETIONS

Henderson County

Joe Worsham No. 2 Wathen, total depth 4,098 feet, 137 bbls. in 24 hours through one-eighth inch choke.

Van Zandt County

Pure Oil Co. No. 11 Smith, total depth 2,888 feet, 51 bbls. per hour through 11/16-inch choke. Walker and others No. 1 Whitaker, total depth 4,730 feet, dry and abandoned, elevation 408 feet. Pecan Gap 2,416-2,545 feet, Austin chalk 3,750-4,035 feet, top Woodbine 4,595 feet, top sand 4,715 feet.

East Texas Field Completions

Gregg County

Arkansas Fuel Oil Co. No. 35 Burnside, 3,479-3,507 feet, 24 bbls. in 15 minutes; No. B-9 Lathrop, 3,579-3,604 feet, 20 bbls. in 15 minutes. Dunham No. 5 Matthews, 3,580-3,581 feet, 20 bbls. in 30 minutes. Empire Gas & Fuel Co. No. 15 Aiken, 3,554-3,565 feet, 24 bbls. in 15 minutes. Gregg Oil Co. No. 2-E T.&R.R.R., 3,528-3,555 feet, 85 bbls. per hour. Grisham & Hunter No. 6 T.&P.R.R., 3,610-3,611 feet, 20 bbls. in 30 minutes. L.G.S. Oil Co. No. 11 McQueen, 3,586-3,603 feet, 30 bbls. in 30 minutes. Long Drilling Co. No. 14-A Owens, 3,566-3,576 feet, 80 bbls. per hour. Ownsby No. 7 Cabinass, 3,603-3,604 feet, 18 bbls. in three hours, on pump; No. 8 Cabinass, 3,579-3,580 feet, 26 bbls. in three hours, on pump. Selby Oil & Gas Co. No. 31-B Snavely, 3,568-3,577 feet, 43 bbls. in 30 minutes. Sinclair Prairie No. 13-A Aiken, 3,588-3,629 feet, 32 bbls. in 15 minutes. Stanolind Oil & Gas Co. No. 12 Adrian-McCrary, 3,467-3,512 feet, 13 bbls. in 15 minutes; No. 5-B Jones, 3,574-3,667 feet, 19 bbls. in 15 minutes; No. 1 Pine Hill Church lot, 3,577-3,641 feet, 18 bbls. in 15 minutes; No. 6 Bowles, 3,513-3,579 feet, 22 bbls. in 21 minutes. Tide Water Oil Co. No. 20 Castleberry, 3,592-3,620 feet, 8 bbls. in 10 minutes. Beard No. 8 Elder, 3,497-3,540 feet, 10 bbls. per hour, on pump. Davis & Hart No. 1 Thomas, 3,428-3,468 feet, 20 bbls. per day, on pump. Humble Oil & Refining Co. No. 84-B Laird, 3,566-3,629 feet, 54 bbls. per hour; No. 88-B Laird, 3,505-3,537 feet, 30 bbls. per hour. Kinso Oil Co. No. 4 Wells, 3,649-3,650 feet, 36 bbls. per hour. Lee & Williams 4-A Carter, 3,595-3,596 feet, 7 bbls. in 10 minutes. Riley & Adams No. 2 Hughey, 3,551-3,564 feet, 40 bbls. per hour. Rozell Oil Corp. No. 10-A Still, 3,522-3,535 feet, 5 bbls. per hour, on pump. Sun Oil Co. No. 6 Smith, 3,616-3,636 feet, 50 bbls. per hour. Texas Co. No. 19 Walker, 3,592-3,593 feet, 30 bbls. per hour. Tide Water Oil Co. No. 32 Bivens, 3,623-3,630 feet, 12 bbls. in 10 minutes. Trentman Oil Co. No. 2 Wynne, 3,671-3,672 feet, 20 bbls. in two hours. Harcher Oil & Refining Co. No. 1 Crim, 3,540-3,560 feet, 15 bbls. in 30 minutes.

Smith County

Hanbury No. 3 Sharp, 3,716-3,718 feet, 50 bbls. per hour. Sinclair Prairie No. 62-A Mayfield, 3,753-3,757 feet, 20 bbls. in 30 minutes; No. 9 Patterson, 3,723-3,724 feet, 20 bbls. in 30 minutes. Sun Oil Co. No. 34-B Pace, 3,768-3,769 feet, dry and abandoned Texas-Gulf Petroleum Co. No. 11 Hodnott-Melton, 3,578-3,680 feet, 10 bbls. in 10 minutes.

Rusk County

Demmer & Perot No. 2 Kennedy, 3,550-3,708 feet, 5 bbls. per day, on pump. Humble Oil & Refining Co. No. 174 Crim, 3,696-3,709 feet, 82 bbls. per hour; No. 86-B Laird, 3,534-3,620 feet, 40 bbls. per hour. Shell Petroleum Corp. No. 12 Spivey, 3,670-3,731 feet, 37 bbls. in 31 minutes; No. 13 Spivey, 3,681-3,705 feet, 60 bbls. per hour. Sinclair Prairie Oil Co. No. 2-C Kennedy, 3,624-3,635 feet, 20 bbls. in two hours, swabbing. Wardlow No. 1 Camp, 3,512-3,524 feet, 22 bbls. in two hours, on pump. Wheelock & Collins No. 22 Wells, 3,613-3,623 feet, 60 bbls. per hour. Davenport and others No. 2 Wilson, dry and abandoned 3,668 feet. Gilcrease Oil Co. No. 9 Bradford, 3,588-3,670 feet, 32 bbls. per hour. Dordon & McWilliam No. 5 Thrash, 3,742-3,775 feet, 60 bbls. per hour. McMurrey No. 2 Dickerson, 3,523-3,598 feet, 168 bbls. on pump. Marathon Oil Co. No. 18 DeGuerin, 3,611-3,673 feet, 64 bbls. per hour. Wolfe No. 1 fee, 3,587-3,603 feet, 40 bbls. in four hours, on swab. Royal Petroleum Co. No. 3-B McDavis, 3,486-3,585 feet, 20 bbls. in four hours, on pump; No. 2-B Wooley, 3,504-3,576 feet, 20 bbls. in four hours, on pump. Stanolind Oil & Gas Co. No. 2 Ashby, 3,676-3,688 feet, 30 bbls. per hour. Tide Water Oil Co. No. 5 Pool, 3,699-3,726 feet, 15 bbls. in 15 minutes. Vaughn No. 8 Alford, 3,759-3,762 feet, 35 bbls. per hour.

Upshur County

Fields No. 13 Walker, 3,691-3,694 feet, 40 bbls. per hour. Fisher and Dye No. 3 Starr, 3,578-3,582 feet, 30 bbls. per hour. Magnolia Petroleum Co. No. 23 Hampton, 3,678-3,687 feet, 100 bbls. per hour. Pewitt No. 1 Kirk, 3,707-3,715 feet, dry and abandoned. Reynolds No. 4 Miller, 3,717-3,725 feet, 15 bbls. in 30 minutes. Rutledge & Boller No. 6 Todd, 3,720-3,721 feet, 20 bbls. in 30 minutes. Southland and others No. 25 O'Byrne, 3,708-3,716 feet, 40 bbls. per hour. Sun Oil Co. No. 13 O'Byrne, 3,725-3,726 feet, 25 bbls. per hour. Twin Oil Co. No. 7 Makcey, 3,724-3,737 feet, 16 bbls. in 30 minutes. Wadley No. 1 Alford, 3,765-3,811 feet, dry and abandoned. Woods No. 8 Mackey, 3,715-3,717 feet, 25 bbls. per hour.

North Louisiana-Arkansas

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duced 44 bbls. per hour through one-half-inch tubing choke.

United Gas No. 3 Eva Fields, J. Collum Survey, flowed 20 bbls. per hour through one-half inch tubing choke on initial test. Saturation was topped at 6,014 feet, and well completed at 6,052 feet, total depth, elevation 273 feet.

United Gas No. 1 J. J. Stewart, John Collum Survey, flowed 49 bbls. per hour through one-half tubing choke initially. Saturation was found from 5,971 feet to 6,010 feet, total depth. Elevation was 231 feet.

Three new locations for the Rodessa section of Cass County, Texas, were begun:

W. F. Lacey and others No. 1 Spell will be situated in the J. H. Rives Survey. Texas Co. No. 3 E. E. Hall is located on the James Young Survey. United Gas Public Service Co. No. A-1 E. Tyson Unit is to be drilled on the J. H. Rives Survey.

DeSoto Parish

Tarbud Oil Co. No. 1 Caddo Realty Co., SW cor. of section 2-13-16, has been abandoned at a total depth of 3,174 feet in hard lime.

W. F. Hyde and others No. 1 Ramsey is now drilling deeper its test located 330 feet north and west of C section 36-11-11.

Morehouse Parish

United Gas No. 22 Tensas, section 4-21-4e, was completed as a gas well at a total depth of 2,175 feet. The well gauged 7,000,000 feet, with a rock pressure of 915 pounds.

J. E. Farrell has staked location for his No. 24 State in section 29-22-4e.

United Gas Public Service Co. has staked locations for three additional wells on their Tensas property. No. 18 will be located in section 35-22-4e, No. 27 in section 4-21-3e, and No. 28 in section 3-21-4e.

Sabine Parish

W. E. Hall No. 1 Aaron, section 32-9-13, was abandoned as a dry hole at a depth of 2,089 feet.

O. S. McKnelley No. 3 Henderson will be drilled in section 29-9-13. Derrick is now on location.

Red River Parish

I. J. Allen abandoned No. 1 Franklin Realty Co., section 20-11-9, at a total depth of 3,190 feet, after finding no shows of oil or gas.

Union Parish

Carbon Consolidated No. 1 So. Carbon Co. is a new location 883 feet south and 770 feet east of the NW cor. of section 11-21-3e. Ten-inch casing has been set at 198 feet.

Innerstate Natural Gas Co. No. 47 fee is now rigging up at its new location 2,075 feet south and 660 feet west of the NE cor. section 22-20-3e.

Southern Arkansas

Although no completions were reported for the Southern Arkansas territory last week, the announcement of a deep test to be made in the southwest corner of Miller County by C. M. Joiner, wildcatter, who discovered the East Texas field, was of major importance.

Joiner announced late last week that he had acquired an 8,000-acre block about 17½ miles north of the Rodessa field, lying close to the Texas border. A well was started on this property in March, 1936, but was shut down after setting surface pipe at 238 feet. This was known as the Odell Hinson No. 1 Montana Realty Co. The test will hereafter be known as the C. M. Joiner No. 1 Montana Realty Co. Location is in the NW of NW of section 3, Township 17s, range 28w, Miller County.

The general theory prompting this test is that the Balcones fault, which runs through the new Talco field in Texas, extends eastward into Miller County, Arkansas.

Another item of importance in Southern Arkansas was the clearing up of a long fishing job at Erwin and Leach No. 3 Bodcow Lumber Co., deep test in section 20-16-13, LaFayette County. Four-inch drill pipe had been stuck for several weeks at 7,561 feet, but was recovered a few days ago. Three-inch drill pipe is now being moved in and drilling will be resumed.

Drilling Contractors

(Continued from Page 69)

mainder of the Buchanan rigs with the exception of a Humble test in McMullen County, are in Duval County fields, where contracts are let to Humble Oil & Refining Co., Shell Petroleum Corp., Stanolind Oil & Gas Co., Pan American Petroleum Co., Mid-Continent Petroleum Corp., and Texas Co.

Trinity Drillers, Inc. of San Antonio have rigs active in several counties in Southwest Texas and the Gulf Coast. A completion was made during the week for the Texas Co. in Pickett Ridge, Wharton County. In Duval County, a wildcat drilling for Kepley Production Co., was abandoned, and contractors were plugging back in Continental Oil Co. No. 9-A Driscoll in the Driscoll field. Besides these tests, Trinity Drillers are active in the Saxet field of Nueces County, drilling for Shell, and a wildcat is going down in Live Oak County for R. H. Feltner.

Boyd Kyle, well known in the Montana fields, visited Calgary, Alberta, recently.

California Field Report

NEW FIELDS, OIL AND GAS, AND TWO PROMISING TESTS

By
L. P. STOCKMAN

LOS ANGELES, Calif., June 8.—The discovery of an oil field in the Stevens area of Kern County and impending production tests on two other promising wildcats, No. 1 D.R.L.&W. of the Eastern Oil Co., located approximately 1 mile east of the Playa Del Rey field of Los Angeles Basin, and the General Petroleum Corp. No. 1 Terminal in the Wilmington district, feature developments in California during the past week. In addition, the Standard Oil Co appears to have discovered a new dry gas field on McDonald Island in San Joaquin County, a few miles north of the Tracy gas field.

The Javon field in Ventura County will be subjected to another test early this summer as the Chanslor Canfield Midway Oil Co. is rotating ahead in No. 4-A Hobson, its initial test in this field, which was discovered by the Continental Oil Co. Javon may prove far more productive and be larger in areal extent than many are inclined to believe. The Continental Oil Co., having secured an extension of its lease, will not be obligated to undertake additional drilling until late in August or early in September and should have the benefit of drilling now being prosecuted by the Chanslor Canfield Midway Oil Co. The General Petroleum Corp. is building a road to the site of its first location but will probably not start actual drilling for 30 days. The new field discovered by the Union Oil Co. in the Santa Maria Valley in Santa Barbara County should receive a thorough testing within the next six weeks, as this company will drill three potential producers on the Battles, Bettiga and Mahoney leases, while the R. R. Bush Oil Co. and the Hancock Oil Co. will drill a test on the Enos lease in section 13-10-34. Production from the Santa Maria field in Santa Barbara County is not expected to exert any appreciable effect on refinery operations as the oil is of a heavy grade and not particularly suitable for refining purposes.

A Delayed Test

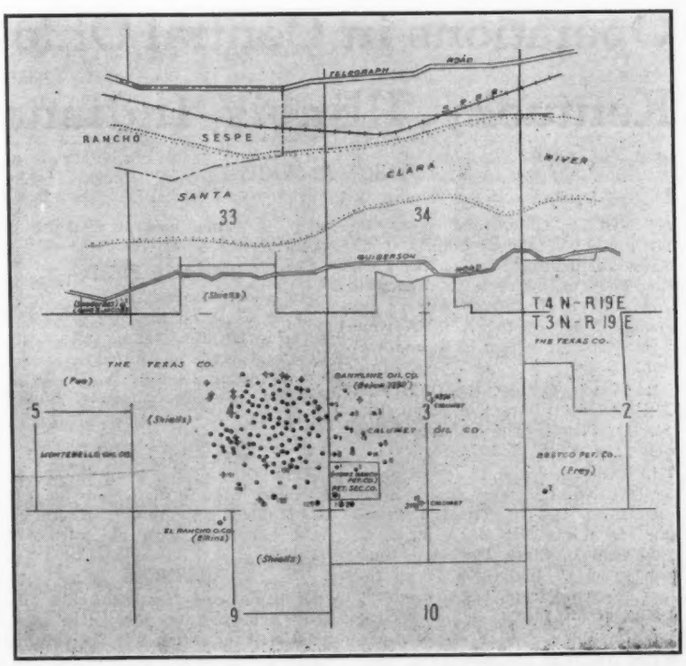
The Eastern Oil Co., which is working on an exceptionally promising wildcat about 1 mile east of the Playa Del Rey field of Los Angeles Basin, landed the 7-inch water string at 7,300 feet but has been unable to put away any cement. The wildcat has shown exceptional promise and on several occasions the crew was obliged to add weight material to the drilling fluid in order to cope with the heavy gas pressure. The Union Oil Co. holds extensive acreage immediately adjacent to the Eastern Oil Co.'s test. General Petroleum has erected a battery of storage tanks on its Terminal lease in the Wilmington district of Los Angeles Basin preparatory to a production test. The company's No. 1 Terminal is bottomed at 2,694 feet and has a 9-inch water string cemented at 2,450 feet. If the company is successful in developing production at the present depth, it may be a heavy oil testing approximately 18 degrees A.P.I. Deeper drilling may result in the development of a lighter grade of oil.

Torrance-Redondo

Four new wells were put on production in the Redondo section of the Torrance field this week. The Walken Oil Co. No. 1 Torrance was good for 385 bbls. of relatively clean 17.8 gravity oil per day from 3,618 feet, after the hole had been finished with a 6⅝-inch liner carrying 398 feet of perforated. The Redondo Oil Corp. completed No. 1 Security, pumping 240 bbls. of 19.1 gravity oil per day from 3,643 feet. This new producer was finished with a 6⅝-inch liner including 375 feet of perforated. The Tu Jax Oil Co. No. 1 Redondo proved good for 236 bbls. of 19.2 gravity oil per day on the beam following completion at 3,737 feet after the hole had been finished with a 6⅝-inch liner carrying 380 feet of perforated. The Dumas-Brown Oil Co. No. 1 Torrance, bottomed at 3,701 feet, was good for 246 bbls. of relatively clean 18.6 gravity oil per day when put on the beam early in the week. These wells should hold up rather well, and should show a fairly long life.

The Shell Oil Co. added another producer to its list in the Dominguez field of Los Angeles Basin when No. 81 Reyes was brought in flowing 414 bbls. of clean 20.9 gravity oil per day from the shallow zone. This well, bottomed at 4,708 feet, and finished with a 5¾-inch liner carrying 135 feet of perforations, is producing 396,000 feet of gas per day along with the oil. The Standard made production tests on two new wells in the Montebello field but one of them, No. 79 Baldwin proved good for only 35 bbls. of 22.1 gravity oil, with a cut of 30 per cent. This well was completed at 3,715 feet after the hole had been plugged back from 6,450 feet. The Standard's No. 81 Baldwin, proved to be a good producer, brought in on the beam pumping 241 bbls. of relatively clean 24.1 gravity oil per day from 3,950 feet. The company recently decided to make another deep test on the Baldwin property and No. 82 Baldwin was selected for this work. A string of 16-inch casing was landed at 2,390 feet and the bit is going ahead at 8,151 feet which is considerably deeper than wells producing from the Miocene in the eastern extension.

The Union Oil Co. added a well to its list of producers in the Richfield district when No. 29 Chapman was brought in pumping 297 bbls. of 23.9 gravity oil per day from 3,641 feet after the hole had been finished with a 6⅝-inch liner including 729 feet of perforated. The large amount of oil sand found indicates that the Chapman zone is badly depleted. The Union did not anticipate a flowing well but considers this zone capable of yielding several additional wells that should produce between 200 and 300 bbls. per day. The company is at present drilling three additional potential producers to the Chapman zone and is building a new rig for No. 30 Chapman which should be spudded in soon. The Shell Oil Co. got a fairly good well in the Long Beach field this week when No. 12 Pickler was brought in pumping 242 bbls. of 26.5 gravity oil cutting 5 per cent from 5,000 feet after the hole had been plugged back from 5,411 feet. The Piereo Petroleum Corp. is building a rig over an old well of the Superior Oil Co. on the Weaver lease and will deepen it.



Schiells Canyon area of Ventura County where the Texas Co., Petroleum Securities Co. and the Bankline Oil Co. hope to open up a new deep zone. Possibilities are considered excellent due to showings found by the Texas Co.

North Belridge

The Continental Oil Co. focussed attention on the North Belridge field of Kern County by completing No. 7 Result flowing 4,010 bbls. of clean 39.6 gravity oil and 1,840,000 feet of gas per day from the lower Wagonwheel zone at 8,520 feet. This well is producing from 336 feet of oil zone and was finished with a 4¾-inch liner carrying 330 feet of perforated which was landed on bottom. The water shutoff was effected by a string of 7-inch landed at 7,985 feet with the liner cemented through perforations at 8,184 feet. The Western Gulf Oil Co. completed No. 2 Red Ribbon in the Fruitvale field of Kern County a few days ago, flowing 320 bbls. of clean 22.4 gravity oil per day from 3,807 feet after the hole had been finished with a 4¾-inch liner including 154 feet of perforated. Magnet Oil Co. recompleted its No. 1 Anderson after redrilling and deepening the hole to 4,112 feet and returned it to production pumping 280 bbls. of 21.4 gravity oil cutting 5 per cent.

In the Mountain View field of Kern County, the Hogan Petroleum Co. completed No. 4 Foster, flowing 829 bbls. of exceptionally clean 31.1 gravity oil and 1,900,000 feet of gas per day from 5,912 feet after the hole had been finished with a 6⅝-inch liner carrying perforations at 5,660-5,700 feet and 5,814-5,912 feet. The Shell's latest completion on the Bannenburg lease in the Mountain View field was good for 187 bbls. of 28.9 gravity oil which showed a cut of 8 per cent from 5,996 feet. Two additional potential producers are nearing completion in this field and both, No. 2 Blackburn of the A. T. Jergins Trust and No. 7 Clendennen of the

Mohawk Oil Co., should be tanking oil within the next week or 10 days. The Buffalo Oil Co. has completed its No. 1 Wildman in the Edison field of Kern County and this new well was brought in pumping 75 bbls. of 16.3 gravity oil per day from 928 feet after the hole had been plugged back from 1,181 feet.

Midway-Sunset

The Gibson Oil Co. completed an exceptionally good well in the Midway-Sunset field of Kern County was brought in flowing 1,672 feet of clean 23.1 gravity oil and 1,280,000 feet of gas per day from 2,854 feet. The crew from this new completion was transferred to No. 1 Westside Lumber property in section 8-11-23 and this potential producer should get under way within another few days. The Quality Oil Co. No. 2 Cypress in section 22-32-23 proved good for 294 bbls. of 16.8 gravity oil per day upon completion early in the week from 1,985 feet. It was put on the beam. Berry Holding Co. No. 23 Hillside in the Midway Sunset field proved to be a small pumper. This well, bottomed at 950 feet and finished with a perforated string of 8⅝-inch, showed an initial daily production of 70 bbls. the oil being clean and testing 14.3 degrees.

The Kettleman North Dome Association (Kenda) completed its No. 27-20-J in the Kettleman North Dome field, doing 1,198 bbls. of clean 30.7 gravity oil per day on gas lift from 8,603 feet. This well was finished with a 6⅝-inch water string landed and cemented at 8,350 feet and a 4¾-inch liner carrying perforations at 8,340-8,403 feet and at 8,477-8,593 feet. Very few recent Kettleman North Dome wells have shown large production and the number finished on gas lift has shown a consistent increase. This may be due partly to the fact that operators are not attempting to establish high potentials and also because Standard and Kenda are drilling a number of wells around the edge of the field and in areas that are partly depleted. Out in the west front of the Kern River field, the Associated Oil Co. has finished No. 51 Young pumping 414 bbls. of 15.1 gravity oil per day from 2,100 feet. Within another week or 10 days, No. 43 Young of the General Petroleum Corp. in section 14-28-27, No. 2 Universal of the National Oil Co. and No. 2 Fleishacker of the Republic Petroleum Co. should be tanking oil as they are all either standing cemented on top of the pay or rotating ahead in the oil sand.

Gas Well

The Standard Oil Co. initial test up on McDonald Island in San Joaquin County was finished, flowing 20,000,000 feet of gas per day from 5,227 feet. The 9-inch water string was landed and cemented in this well at 5,155 feet and the well is at present standing shut in with a pressure of 2,100 pounds showing on the gauge. This well blew out prematurely several days ago and cut out the fittings before being given a production test and the well delayed completion for a few days. It will require another well or two before the importance of this possible new gas field can be appreciated. The Ohio Oil Co. should be in a position to finish another new gas well in the Buena Vista Lake gas field of Kern County in another few days as the company recently landed and cemented a string of 8⅝-inch casing in No. 7 K.C.L. in section 5-32-26.

The Anacapa Oil Co. completed No. 4 Mesa in the Santa Barbara Mesa field, pumping 340 bbls. of 18.9 gravity oil per day from 2,059 feet. In the Elwood field of Santa Barbara County, the Barnsdall Oil Co. has given up the attempt to complete No. 12 Luton Bell in the Eocene due to mechanical trouble and the inability to find a body of oil sand thick enough to result in commercial production. This well has been drilled down to a depth of 8,506 feet, but has been plugged back to the Sespe at 6,856 feet. In the Carpinteria district, the Santa Barbara Oil Co. has abandoned its No. 1 Bryce in section 29-4-25 due to the unfavorable outlook at 2,290 feet. In the Rincon field of Ventura County, the Rincon Oil Co. completed No. 3, pumping 94 bbls. of exceptionally clean 31.7 gravity oil per day from 2,109 feet. It is located on a state tideland permit about 2,500 feet out beyond the tide line and was brought in barefoot. The Associated Oil Co. has acquired the Edwards lease near Goleta in Santa Barbara County, and this property, which was once held by the Barnsdall Oil Co., but quitclaimed after a test had been abandoned, will be given another test by the Associated in the near future. Hogan Petroleum Co. has taken over the McNally lease of 2,400 acres near the West Coyote field in Los Angeles Basin and will drill a series of shallow core holes. The first series will be along the east line in a northerly direction in order to traverse the projected axis and the second group will be drilled from east to west.

The Shell Oil Co.'s important discovery in Kern County is accounted for in another portion of this edition, with a map of the area.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	May 24		May 17			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	151,541	527,098
Gasoline	191,282	27,326	124,496	17,785	2,798,566	3,006,711
Kerosene	62,680	8,954	.....	.....	568,099	669,351
Foreign exports:						
Crude oil	263,760	37,680	363,069	51,867	4,065,983	4,527,587
Fuel oil	281,058	33,008	408,328	58,333	4,284,802	4,830,668
Diesel and gas oil	187,589	26,798	269,551	38,507	2,421,667	1,766,422
Gasoline	211,892	30,270	245,144	35,021	2,663,409	1,984,913
Kerosene	37,236	5,319	6,397	914	424,226	509,986
Other unfinished oil	.....	.....	3,519	503	16,894	56,161
Coastwise-domestic:						
Crude oil	313,426	44,775	247,883	35,412	3,124,240	2,299,867
Fuel oil	102,748	14,678	261,773	37,396	3,544,691	3,668,903
Diesel and gas oil	9,083	1,298	2,184	312	519,927	413,433
Gasoline	129,036	18,434	309,856	44,265	5,400,464	3,593,240
Kerosene	.....	.....	2,551	364	88,684	47,048

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	....	.....	157,258
Gasoline	.....	.....	.....	.....	71,960	.....
Kerosene	.....	.....	.....	.....	.....	149,715
Asphalt	7,636	1,091	.....	.....	68,586	142,497
Lubricants	.....	.....	.....	.....	18,129	19,550
Foreign exports:						
Crude oil	46,962	6,709	.....	.....	1,162,460	1,184,099
Fuel oil	21,394	3,056	106,091	15,156	1,343,990	775,588
Diesel and gas oil	38,739	5,533	34,709	4,958	376,370	459,774
Gasoline	38,160	5,451	94,528	13,504	1,350,142	1,157,041
Kerosene	26,667	3,810	9,017	1,288	282,365	278,692
Lubricants	.....	.....	26,008	3,715	129,925	86,976
Coastwise-domestic:						
Fuel oil	123,974	17,711	39,711	5,673	3,087,097	1,842,771
Diesel and gas oil	42,817	6,117	.....	.....	273,894	134,687
Gasoline	32,768	4,681	70,160	10,023	2,032,620	1,895,747
Kerosene	.....	.....	.....	.....	58,932	30,844

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, June 8.—In the Tiffin field of Seneca County, J. L. Barnett is drilling No. 1 on the T. N. Einsel farm, section 1, Hopewell Township. J. H. Murphy & Sons are drilling No. 1 on the J. G. Werling & Co. property, section 16, same township.

In Wayne County, the Ohio Fuel Gas Co. No. 1 Grant Alleman, section 11, Chester Township, is a gas well at a depth of 3,251 feet.

In Coshocton County, the Upham Gas Co. No. 1 on the Alonzo Spurgeon farm, Lot 19, Tiverton Township, is a gas well at a depth of 2,997 feet. In Clark Township, same county, M. C. Wallz No. 11 on the Jess Lawrence farm, Lot 4, produced 3 bbls. at 810 feet.

In Cuyahoga County, Schneider & Wyles No. 1 on the Howard L. Simmons property, in Lot 1, Dover Township, is a dry hole.

In Fairfield County, City Natural Gas Works No. 1 on the Charles O. Tschoff, section 5, Pleasants Township, is a dry hole at a depth of 2,131 feet.

INDIANA FIELD

In Knox County, Indiana, O. A. Thayer No. 1 on the Myrtle Cowles farm, in Location 290, came in a dry hole at a depth of 845 feet.

In Spencer County, W. W. Damron No. 1 on the Margaret Slieter farm, SE NE section 33, is dry.

KENTUCKY FIELD

Ohio Oil Co. No. 2 on the R. B. Kennedy farm, in the Greenville area of Muhlenburg County, Kentucky, was completed with an initial of 30 bbls.

ILLINOIS

It is reported from Nashville, Ill., that following the completion of a good well in section 8-1n-3w, Clinton County, 3 miles southwest of the Carlyle field, several wells are drilling and a number of rigs have been moved in. This is in new territory and the discovery well is said to have pumped an initial of 300 bbls.

Houston Oil Men Talk Over Show Plans

HOUSTON, Tex., June 8. — Steps toward the formation of an industry controlled, non-profit oil show to be held in Houston on alternate years with the International Petroleum Exposition at Tulsa were taken at an open meeting of oil and equipment men here June 5. To perfect the organization and take such action as might be necessary a board of governors, consisting of 17 oil men and 18 supply men, was elected.

Oil men elected are: John R. Suman, Humble Oil & Refining Co.; B. M. Nowery, United Gas Co.; J. S. Abercrombie, independent; H. C. Hanszen, independent; S. T. Childress, Rio Bravo Oil Co.; A. T. McDannald, Smith & McDannald; T. E. Swigart, Shell Petroleum Corp.; J. H. Russell, Gulf Oil Corp.; A. M. McCorkle, Stanolind Oil & Gas Co.; George A. Hill, Jr., Houston Oil Co.; H. J. Lund, California Co.; D. T. Harrison, independent; Chase E. Sutton, Pure Oil Co.; D. B. McDaniel, independent; R. W. Pack, Sun Oil Co.; Al Buchanan, independent; and T. J. Donoghue, Texas Co.

Equipment men elected are: John Crotty, Republic Supply Co.; H. J. Cullinan, Petroleum Iron Works; L. O. Koen, W-K-M. Co.; S. P. Brown, Hughes Tool Co.; W. L. Childs, Reed Roller Bit Co.; Frank S. Carothers, Norvell-Wilder Supply Co.; H. W. Millmine, Texas Rubber & Specialty Corp.; W. J. Craig, Baash-Ross Tool Co.; W. B. Sharp, Mission Manufacturing Co.; J. H. Teer, Layne & Bowler Co.; C. B. Moore, Frick-Reid Supply Corp.; R. J. Miller, Robert J. Miller Co.; C. R. Patterson, National Supply Co.; M. W. Phelps, Oil Well Supply Co.; F. H. Thrailkill, Continental Supply Co.; Wallace Wilson, Wilson Supply Co.; George O'Leary, Houston Oil Field Material Co.

The meeting voted to proceed with plans for such a show in the face of an unfavorable report by a committee, which made a thorough study of the situation and practicability of establishing such a show. That committee, consisting of John R. Suman, T. J. Donoghue, Ray L. Dudley, S. F. Brown, Chase E. Sutton, W. L. Childs and E. L. Lorehn, Cameron Iron Works, conferred with executives of the International Petroleum Exposition during the recent Tulsa show. The report of that committee stated that although the committee favored holding such a show in Houston it did not consider it advisable to hold such shows oftener than once every two years, and unless arrangements could be made for the Tulsa and Houston shows to be held on alternate two-year periods (once every four years at each place), it did not favor taking any action toward the establishment of a Houston show.

Michigan Field Report

OLD POOLS ARE PROLIFIC BUT OUTSIDE TESTS ARE FAILURES

By
PAUL A. ELLIOTT

MUSKEGON, Mich., June 8.—Disappointment greeted efforts of Michigan operators in extension and wildcat tests in virtually every section of the state in the past week, but proved fields added new producers of both oil and gas to offset declining daily production.

About 10 dry holes were reported in widely scattered areas, a record matched by as many or more new oil and gas wells as a marked increase in completions reflected the determined search for new production. Nearly 160,000,000 feet of new gas potential also was developed.

Beaverton Field

The largest natural producer yet completed in the Beaverton field in Gladwin County, where a dozen wells increased the daily output to more than 1,000 bbls. during May, was M. F. Whitehill No. 1 Thomas Bell, NW NW NE section 11-17n-2w, Beaverton Township. It flowed 350 bbls. a day from the Dundee limestone at a total depth of 3,825 feet.

Three miles northwest of the proved field, T. F. Caldwell, Inc., No. 1 Edgar Parker, SE SE SE section 21-18n-1w, a Grout Township wildcat extension test, topped the Dundee at about 3,990 feet and was ready to drill in, though with little hope of success.

Charles Bell No. 1 R. Ross, SE SE SE section 34, Grout Township, recently completed dry, was plugged and abandoned as a similar but unsuccessful test.

Whitehill No. 1 Joseph Bell, SW SW SE section 2, Beaverton Township, was nearest of eight other tests active in Gladwin County.

Crystal-Montcalm Field

In the Crystal-Montcalm County field, four new wells in the Dundee oil sands added more than 1,000 bbls. of initial production and one about 7,500,000 feet of gas from the Michigan Stray sands.

Largest of the new oil producers was C. and M. Securities and T. B. Smalley No. 1 John Flint, SW NE SW section 35-11n-5w, Ferris Township, which flowed 565 bbls. during the first 24 hours at 3,186 feet, but was checked to a daily flow of 300 bbls. with back pressure.

Pure Oil Co. No. 1-B Claude Mangus, SE SE SW section 36, also in the Ferris Township, or north section of the central Michigan field, drilled into the Dundee pay sands and was treated with acid before being given a production test.

Two new oil wells were completed in the original Crystal Township section of the field, namely Daily Crude Oil Co. No. 1 Milo Strait, SE NE NE section 4-10n-5w, which made about 300 bbls. daily at 3,209 feet on the west edge of the proved area, and Rowmor Corp. No. 2 Frank Lamphier, NW SE NE section 2, which made about 175 bbls. naturally at 3,176 feet. The latter probably will be acid treated.

T. F. Caldwell, Inc., No. 2 Benjamin Pugsley, C SE NW section 36, Ferris Township, was the gasser, making 7,500,000 feet daily from the Michigan Stray sands.

United Producers Oil & Royalty Co. No. 3 Ernest and Martha Conners, NE SW NW section 26, and Burnstein Oil & Gas Co. No. 2 H. Fisher, NW SE SW section 36, were Ferris Township near completions.

J. W. Leonard, Jr., trustee, No. 1 Maud Hoover, SW NE NE section 11, Crystal Township, had settled down to production of about 500 bbls. daily as one of the best recent completions in the field after acid treatment.

Two tests were nearing Dundee completion in Crystal Township, Midland Petrol & Gas Co. No. 2 L. B. Smeed, SE SW NW section 2, and Jetter Oil Co.'s outpost, located SE SE NW section 5.

Montcalm Wildcats

Four Montcalm County wildcats, all in the vicinity of the Vickeryville well about 8 miles southwest of the Crystal Pool, where it was hoped a new field might be developed, struck water.

Jetter Oil Co. No. 1 C. McCracken, NW SE SE section 6-9n-5w, Bloomer Township, reported water at about 3,120 feet, or about 20 feet in the Dundee. It had not yet been abandoned, however. This test is more than a mile east of the Jetter and Lima Oil Co. discovery well brought in on the Long lease in section 1-9n-6w, Bushnell Township, last fall as a 60-bbl. initial producer in the Dundee.

Star Petroleum Corp. No. 1 James Ward, NE NE NW section 20, same township, was to be plugged and abandoned after failure to make commercial production testing the upper Traverse last week at about 2,900 feet after failure in the Dundee at a total depth of 3,155 feet.

John F. Martin, Inc., No. 1 H. P. Christensen, SE SE NW section 20-10n-6w, Evergreen Township, also was ready for abandonment at about 3,295 feet, or nearly 90 feet in the Dundee on a site 5 miles west and 3 miles north of the discovery well.

Michigan Gas & Oil Co. No. 1 F. Youngs, NE NW SW section 1-9n-6w, Bushnell Township, was plugged and abandoned at 3,154 feet, with a light show of Dundee oil.

McClanahan Oil Co. No. 1 Lincoln National Life Insurance Co., SW SW NW section 29-12n-5w, Richland Township, in which an estimated flow of about 5,000,000 feet of upper Marshall gas was passed up to drill for oil in the deeper formations, also was abandoned after striking Dundee water. It was drilled to 3,502 feet and also reported a show of gas in the Dundee.

Durham & Jones No. 1 Delos A. Towle, SE SE NW section 15-11n-8w, a Pine Township, Montcalm County wildcat, also was nearing the Dundee after passing through a good show of gas in the Michigan Stray. It was drilling at more than 3,100 feet.

Midland County

About 300 bbls. of new Dundee production, and the promise of more, resulted from acid treatment and drilling of four more Dundee wells in the Porter and Jasper Township areas of Midland County.

Pure Oil Co. No. B-2 John B. Rayner, C N half NW SE section 12-13n-2w, Jasper Township, located half way between the two proved areas, made 180 bbls. a day after acidizing. It was drilled to 3,440 feet. Pure No. 4 Frank Howland, SE NW NW section 23-13n-1w, Porter Township, made 110 bbls. initial after acid treatment in the Dundee at 3,422 feet.

Two others drilled into the Dundee but not yet completed by acid treatment were: Joseph Trever No. 1 Mrs. F. Forbes, SW SW SW section 22, Porter Township, which had filled up several hundred feet with Dundee oil when drilling operations were suspended at 3,480 feet and Pure No. 2 Reed-Alspaugh, C S half NW SE section 2, Jasper Township, drilled to 3,436 feet but not yet treated.

Five other tests were nearing Dundee completion, namely: Pure No. C-2 Iva E. Bond, in section 1, Jasper Township; Pure No. D-3 Laura E. Root, section 2, same township; Pure No. 23 Mina Narmore, section 15, Porter Township; Jetter Oil Co. No. 1 French, section 14, same township; Upper Peninsula Oil & Gas Development Co. No. 1 Hodge, section 18, same township, and Rex Oil & Gas Co. No. 1-B Frank Howland, section 23, Porter Township.

Isabella County

Thompson Brothers, Inc., No. 1 William Smith, NW NW NE section 3-14n-3w, Chippewa Township, Isabella County, drilled into a good show of oil and gas in the upper Traverse last week and shut down to treat with acid.

E. Schelling No. 1 Jay and Blanch Varney, NE SE SW section 34-15n-3w, Denver Township, Isabella County, also was ready to be cased above the Dundee and drilled in.

Ogemaw County

Six tests in Ogemaw County fields finished drilling into the Dundee or Traverse oil sands with commercial production either determined or about to be by acid treatment and swabbing.

Muskegon Development Co. No. 2 Cora Barber, SE SW NW section 28-22n-2e, West Branch Township, made 110 bbls. daily at 2,730 feet, or 180 feet in the Dundee. It was treated.

Mohawk Oil Development Co. No. 2 Golf Club, NE SW SW section 27, same township, was rated 65 bbls. naturally, but will be treated with acid after casing repairs.

Ogemaw Crude Oil Co. No. 1 Gussman, SW SE SE section 19, also West Branch, drilled up several hundred feet with oil when the drill had reached only 60 feet in the Dundee with another 100 feet to go. Dundee was topped at 2,557 feet.

Four other West Branch Township tests were swabbing to test natural production pending acid treatment. Fortney Oil Co. No. 1 County Farm, SW SW NW section 20, topped Dundee at 2,560 feet and drilled 162 feet in. Consolidated Petroleum Producers, Inc., No. 3 Evans Crow, SW SW NE section 36, was swabbing at 2,605 feet after topping the Dundee 165 feet higher in the hole. Ogo Oil Co. No. 1 Charles Hustead, SE SE NW section 36, was testing in the upper Traverse with the swab for a show encountered at about 1,800 feet to be acid treated. Weber Oil Co. also was swabbing the No. 2-B August Reinhart, SE SE SE section 28.

Ogemaw Crude Oil Co. No. 1 Frank Baumchen, NW NW SW section 27, West Branch Township, also was nearing Dundee, deepening after being produced for some time in the Traverse.

Four other tests nearing Dundee completion in other townships were: Sun Oil Co. No. 3 Department of Conservation, section 1-21n-2e, Horton Township; Mills Oil, Inc., No. 1 Jacqua, section 6-21n-3e, Mills Township; R. F. Voorhees' No. 2 E. V. Taylor, section 17, also Mills Township, and J. W. Leonard, Jr., and others No. 2 J. and C. Heintz estate, section 24-22n-1e, Ogemaw Township.

Gassers

Open-flow capacity of the Tri-Townships gas field of Millbrook-Hinton-Belvidere Townships, Mecosta and Montcalm Counties, by far the largest gas-producing area in Michigan, last week was increased 159,200,000 feet by the completion of four new wells and more than doubling the output of a previous completion in the Michigan Stray sands.

Midland Petrol & Gas Co. No. 1 Ward Gibbs, C NE SW section 3-12n-7w, Belvidere Township, Montcalm County, was completed as Michigan's new record gasser with an open flow of 67,500,000 feet daily at 1,269 feet. It exceeded by 13,500,000 feet the state's previous record 54,000,000-foot gasser, Hyatt and Norton No. 1 Suth-

erland, C SE NE section 5, same township.

Next came William R. Baker No. 1 Bert Morse, C NW NW section 5, same township, with an open flow capacity of 39,000,000 feet at 1,315 feet.

Third large gasser was Hyatt and Norton No. 2 Fouts, C NW NW section 3, Belvidere Township, which made 31,400,000 feet a day. Columbia Oil & Gas Co. No. 1 Skutt, C SW SE section 24-13n-8w, Hinton Township, was brought in with an open flow of 4,300,000 feet at 1,314 feet.

To the combined flow of 142,200,000 feet added by these four new gassers, the Gordon Oil Co. added another 17,000,000 feet by deepening No. 1 Phillip Trecy, SE NW section 10, Belvidere Township, boosting it from an original flow of 14,000,000 feet at 1,261 feet to 31,000,000 feet by 28 feet of drilling.

Half a dozen gas tests were nearing completion in various parts of the field as gas developers continued to lead oil drilling companies taking out 10 of 18 permits issued by the state conservation department.

Wildcat Tests

Four wildcat tests for oil were unsuccessful in widely divided areas in Michigan last week. Two were in Gratiot County, one in Newaygo and the other in Grand Traverse.

Gulf Refining Co. No. 1 Thomas Redman, NE SE SW section 1-12n-1w, Wheeler Township, Gratiot County, was dry in the Dundee and to be abandoned at 3,252 feet deep despite a gas show 30 feet in the limestone.

McPherson & Co. No. 1 George Sharrar, NW SW SW section 11-11n-4w, Sumner Township, same county, also failed to strike production in the Dundee but may be plugged back to test a Traverse show at 2,855 feet.

Disappointment also was feared in C. W. Collins No. 1 Tomlin, SW NW SW section 27, Sumner Township, in which water appeared after the hole had been drilled about 5 feet below the casing level, or several feet below 3,200 feet. Operations were suspended to cement casing.

M. J. Ingold decided to plug and abandon No. 1 Dr. J. Miller estate test, NW SW SE section 23-26n-11w, Blair Township, Grand Traverse County, isolated northwestern Michigan wildcat test, when tools were lost at about 130 feet in the Monroe limestone at 3,330 feet. The operator plans another test in the area.

E. M. Neff and others also completed their No. 1 Mabel L. Sippy, on the line between sections 26 and 27-16n-13w, Lilly Township, Newaygo County, which was dry in the Dundee at about 3,000 feet.

Two wildcats which previously struck shows in the Dundee indicating the possibility of new fields, were testing. They were the Terry Dale Michigan Corp. No. 1 Edgar A. Tew, SW SW NE section 12-6n-7w, Berlin Township, Ionia County, setting casing at 2,858 feet before a test, and Dr. Virgil R. D. Kirkham No. 1 Boyce farm, SW SW NW section 24-14n-7e, Wusner Township, Tuscola County, drilled about 140 feet in the Dundee with several shows of oil and still drilling.

Rocky Mountain Fields

(Continued from Page 76)

Daniels County

Whitetail O. & G. Co. No. 1, NW NE NW sec. 10-36n-50e. O.W.D.D.; resuming at 1,845 ft.

Fallon County

Montana-Dakota Utilities Co. No. 1 Unit, NE NE NW sec. 17-4n-62e. T.D. 6,797 ft.; P.B. to 6,767 ft. to S.O.W.

Fergus County

Minnesota Co. No. 1 Fenholt, SE NW SW sec. 24-21n-18e. Fsg. at 1,100 ft.

Judith Operating Co. No. 2 Government, NW NE sec. 35-22n-17e. Drlg. 1,023 ft.

H. C. Rowland No. 3 Government, CEL NE SW sec. 18-17n-24e. Spdg. 50 ft.

Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-21-18e. Drlg. 576 ft.

Glacier County

There were three completions and five new operations in the Cut Bank field. The best well was Nadeau Brothers No. 3 Farmers State Bank, C SW NE section 17-33-5w, in the southern part of the field, which swabbed 310 bbls. first 24 hours from the pay at 2,910-32 feet. Total depth is 2,940 feet and the elevation 3,862 feet. It had a show of oil in the Sunburst at 2,835-60 feet and 2,845-52 feet.

The Montana Power Gas Co. No. 1 Corrigeaux, CWL NE NW section 28-33-5w, swabbed 100 bbls. first 10 hours and 84 bbls. next 24 hours from the pay at 3,089-3,104 feet. Total depth is 3,105 feet and the elevation is 4,007 feet. The Sunburst at 3,019-33 feet was dry.

R. C. Tarrant No. 6 Britton, C SE SW section 12-34-6w, in the old part of the field, swabbed 83 bbls. first 24 hours from the pay at 2,790-2,806 feet. Total depth is 2,812 feet and the elevation 3,792 feet.

Montana Headlight Oil Co. No. 3 Britton, NE cor. SE section 11-34-6w, reported a completion last week for 10 bbls. on a swabbing test, failed to improve and was plugged and abandoned.

Cobb-Pardee No. 1 Stufft, C SE NW sec. 25-36n-6w. T.D. 2,975 ft.; U.R. 7-in. at 2,945 ft.

Cobb-Pardee No. 2 Morrison, CEL NE SE sec. 24-33n-6w. Rig.

Consol. Gas Co. No. 1 Allotted-114, CNL NE SW sec. 31-33n-5w. Drlg. 2,365 ft.

A. E. Crumley No. 2 Allotted-113, SW NW SE sec. 31-33n-5w. Drlg. 245 ft.

Dakota-Montana Oil Co. No. 4 Winkler, 700 ft. SN line, 1,320 ft. EW line, sec. 36-35n-6w. Drlg. 2,760 ft.

Goodman Oil Co. No. 1 Tribal, SW NW SW sec. 25-33n-6w. T.D. 3,055 ft.; cmtd. off lost tools; W.O.C.

Hannah-Porter Co. No. 1 Allotted-130, C Lot 3, sec. 6-32n-5. Drlg. 1,000 ft.; Colo. 575 ft.; 10-in. 596 ft.

B. V. Hole No. 1 Tribal, C NW SW sec. 36-33n-6w. M.I.M.

B. V. Hole No. 1 Allotted-124, 640 ft. out of NE cor. sec. 1-32-6w. R.U.

R. C. Jeffries No. 4-A Lukens, NE NE NE sec. 12-33n-6w. Drlg. 2,880 ft.

Kincheloe-Hanlon No. 2 State, NE NE NE sec. 36-33n-6w. Drlg. 1,500 ft.

Kately No. 4 Drumheller-Ward, SE NE NE sec. 10-34n-6w. Drlg. 1,800 ft.

Manning & Marshall No. 2 Tribal-120, 760 ft. SN, 660 ft. WE, Lot 8 (NW NE), sec. 7-32n-5w. Loc.; (first report).

Montana Headlight Oil Co. No. 5 Yunck, C SW NW sec. 1-34n-6w. R.U.; (first report).

Montana Power Gas Co. No. 1 Lagabeer Unit, SE SE NW sec. 17-35n-5w. Spdg. 230 ft.

Montana Power Gas Co. No. 4 Seeba, SW SW NW sec. 2-34n-6w. Drlg. 1,810 ft.

Montana Power Gas Co. No. 1 Mueller, C SE SE sec. 7-33n-5w. Cellar and sump; (first report).

Nadeau Bros. No. 1 Ewald, C NE SW sec. 9-32n-5w. Bldg. rig.

Par Oil Co. No. 7 Haines, NW SW SW sec. 2-34n-6w. Cmtd. 10-in. at 545 ft.; W.O.C.

Santa Rita O. & G. Co. No. 2 Gov't, NW SW NW sec. 31-33n-5w. Cmtd. 7-in. at 2,785 ft.; W.O.C.

Neil Spencer No. 2 Tweedy, 925 ft. NS line, 1,980 ft. W line, SE sec. 25-33n-6w. Drlg. 2,120 ft.

H. R. Patterson No. 1 Miller, C NE NE sec. 1-33n-6w. Colo. 495 ft.; 10-in. at 526 ft.; W.O.C.

Stanley Gray No. 1 Allotted-132, NW SE NW sec. 22-34-7w. Drlg. 1,850 ft.

Jack Marshall No. 1 All.-119, C SE SW sec. 1-32n-6w. Bldg. rig; (formerly Stewart-Knudson).

R. C. Tarrant No. 1 Everett Hope, C NW SW sec. 19-34n-5w. Rig; (first report).

R. C. Tarrant No. 6 Getty, SE NE SW sec. 2-34n-6w. Drlg. 200 ft.

Tarrant-Long No. 5 Miller, C NE NE sec. 24-34n-6w. Drlg. 2,763 ft.; 400 ft. oil in hole.

Texas Co. No. 1 Gov't, C SW NE sec. 17-32n-5w. Drlg. 540 ft.

Texas Co. No. 6 Morrison, 660 ft. S of NW cor. sec. 22-35n-6w. T.D. 2,902 ft.; swbg. at 2,895-2,902 ft.; will D.D.

Texas Co. No. 2, Unit 9, C SW NE sec. 9-32n-5w. T.D. 3,063 ft.; stdg. 7-in. cmtd. at 3,058 ft.

Wilkinson et al No. 1 All.-127, C NE NE sec. 1-32n-6w. Spdg. 75 ft.

Wilkinson et al No. 1 Tribal, 126, C NE NW sec. 7-32n-5w. Drlg. 2,555 ft.

Stanley Gray No. 1 All-132, NW SE NW sec. 22-34n-7w. Drlg. 2,650 ft.

Petroleum County

West Dome Oil Co. No. 1, SW SE NE sec. 9-15-29e. Drlg. 1,293 ft.; first Cat Creek at 1,240-88 ft; test 5 bbls.; cased off with 5 3/16-in. at 1,290 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15w. Drlg. 431 ft.

Pondera County

Wm. M. Fulton No. 1-A Price, SW NE NE sec. 18-27n-4w. Drlg. 780 ft.

Clinch Pet., Ltd., No. 1 Hollan, NW SW NW sec. 12-28-6w. Cmtd. cave at 2,000 ft.; W.O.C.

Warren Hastings No. 2 Erickson, NW SW NW sec. 10-27n-4w. T.D. 1,990 ft.; S.O.; will acidize.

Warren Hastings No. 3 Erickson, NW SE SW sec. 10-27n-4w. Loc.; (first report).

Texas Co. No. 1 Valier Unit No. 1, C NW SE sec. 32-31n-5w. Drlg. 2,420 ft.

Gordon Campbell No. 1 Hughes, NW NE NW sec. 12-30n-4w. Drlg. 1,090 ft.

Jones-Chambers No. 1 Erickson, SW SE SW sec. 3-27-4w. Bldg. drk.

Teton County

R. C. Tarrant No. 1 Wallenstein, NW NW SW sec. 9-27-5w. Drlg. 90 ft.

Toole County

Alexander-Sorrell No. 1 Strange, NE NE SE sec. 31-35n-3w. Stdg. rigged.

Big West Oil Co. No. 2 Dalquist, NW NE NW sec. 21-35n-3w. R.U. (first report).

A. E. Crumley No. 9 Shaw, SE SW NE sec. 35-36n-2w. Drlg. 630 ft.

Crumley & Son No. 4 Fryberger, SE NW SE sec. 24-35n-3w. Drlg. 1,480 ft.

Agen & Goeddertz No. 1 Goeddertz, C SE NE sec. 16-35n-3w. Drlg. 1,460 ft.; gas in Sunburst at 1,390-1,403 ft.

Big West Oil Co. No. 1 Dalquist, SW NE NW sec. 21-35n-3w. Drlg. 1,705 ft. in sand.

Carscallen & Mitchener No. 1 Krueger, 1,320 ft. W of E line, 1,980 ft. S of N line, sec. 10-34n-2w. T.D. 1,650 ft.; acidized; did not recover load.

Coolidge & Coolidge No. 1 Hanlon, SW SW SE sec. 26-36n-2w. R.U. (first report).

Coolidge & Coolidge No. 2 Shaw, SE SE SE sec. 26-36n-2w. Drlg. 1,258 ft.

Continental Oil Co. No. 7 State, SE NE NE sec. 16-35n-2w. Drlg. 920 ft. sd. and sh.

Fraser & Smith No. 1 Crabtree, NE NE SE sec. 14-34n-2w. Drlg. 1,390 ft.

Imperial-Craig Oil Co. No. 17 Bluhm, CWL NE NE sec. 19-35n-1w. T.D. 1,635 ft.; Ellis-Madison 1,596-1,635 ft.; 40 ft. of oil; will acidize.

Imperial-Craig Oil Co. No. 18 Bluhm, NW NE NE sec. 19-35n-1w. T.D. 1,643 ft.; Ellis-Madison 1,596-1,643 ft.; P.B. 6 ft. to S.O.W.; 50 ft. oil; will acidize.

T. P. Kyle No. 1 Wolnsti, CSL SE SE sec. 3-33n-1w. Cmtd. 12½-in. at 285 ft.

Monopeg Oils, Ltd., No. 3 Dipple, CSL SW NW sec. 28-35n-1w. T.D. 1,450 ft.; R.U. to drill in.

Munger No. 1 Peterson, NW NW SW sec. 8-35n-2w. Drlg. 860 ft.

C. T. Olen No. 6 Engemoen, SE SW NW sec. 14-35n-2w. Drlg. 410 ft.

E. O. Reickoff No. 2 Gov't, SW SW NE sec. 3-35n-3w. Drlg. 1,445 ft.

Burt Smith No. 1 Haugen, SE SE NW sec. 2-35n-3w. Drlg. 1,540 ft.

Welch Bros. No. 1 Dewald, SW NE NE sec. 26-36n-2w. T.D. 1,787 ft.; 250 ft. oil; will acidize.

Watson No. 1 Leach, SE SE NE sec. 31-35n-3w. Drlg. 850 ft.

Superior Oil Co. No. 4 Haugen, SW SE NE sec. 11-35n-3w. T.D. 1,806 ft.; Ellis-Madison 1,801-06 ft.; C.O. after acidizing.

Nepstead & Vanderpas No. 1 Solberg, NE NW SE sec. 20-35n-3w. Drlg. 580 ft.

R. C. White No. 2 Haugen, CNL NE SE sec. 11-35-3w. R.O.G. (first report).

UTAH

Grand County

Columbia Crude Co. No. 1 Rath, SW SE sec. 12-35n-20e. Drlg. 700 ft.

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22e. S.D. 4,880 ft. to resurvey; went through 2,400 ft. of Permian, Rico and Cutler beds.

Glenn Ruby et al No. 1 State, NE SE SE sec. 34-31s-16e. Drlg. 2,028 ft.; Shinarump dry; will go to Coconino.

Utah County

Diamond Oil Co. No. 4 Gov't, CSL SE NW sec. 10-8s-5e. S.D. 3,956 ft. in petroleum residue substance.

Summit County

Longwell Pet. Co. No. 1, SE SW SE sec. 35-3n-5e. Drlg. 1,240 ft.

Washington County

Arrowhead Pet. Corp. No. 1-A, SE SW NE sec. 1-43s-15w. T.D. 2,475 ft.; sidetracking tools; good show oil.

Louisiana Legislature May Revise Oil Law

SHREVEPORT, La., June 8.—Revision of Louisiana conservation laws, possibilities of increased taxation, and other legal ramifications held the interest of northern Louisiana oil men this week. Several bills to amend or supplement the conservation laws have been introduced into the legislature. It is thought some effort will be made to pattern any revision after the Texas or New Mexico laws.

Possibilities of abolishing the 5 cents per barrel refinery tax in Louisiana was considered lost when house leaders introduced a concurrent resolution perpetuating the tax.

This levy was first imposed under the late Huey P. Long, assessing a tax of 5 cents on each barrel of crude refined in Louisiana, but authorizing the chief executive to suspend collection "as he saw fit."

Never more than 1 cent of this tax has been collected, but it remains over the heads of Louisiana refiners. The late Governor Allen twice suspended collection of the 4 cents, and former Governor Noe did so once. Apparently Governor Richard W. Leche has had a change of mind concerning this measure as in his inaugural address he specifically stated he planned to abolish this tax.

The resolution before the legislature declares the suspension power should be granted the governor "for the purpose of securing better employment and promoting more business," and because the "necessity" for it "is controlled by conditions, circumstances, and emergencies which arise and subside from time to time."

The imposition of additional taxation upon motor fuels and lubricants although apparently inevitable, is meeting with strong organized opposition throughout the state. Organized resentment to House Bill No. 289 which places a tax of 5 cents per quart on lubricating oil, was heard from the Oil Dealers Association of Louisiana at their parish meetings throughout the state last week. E. R. Greenlow of New Orleans, managing director of the Louisiana Motor Transportation Association, composed of truck owners and operators, issued a statement that this tax was "impractical, uncollectable, and defeated its purpose."

Another of Governor Leche's revenue producing measures, falling upon the oil industry, is the imposition of a uniform 7 cents per gallon gasoline tax throughout the state. The present tax is 5 cents for the state with authority for the parishes to collect up to 2 cents per gallon. Due to inadequate machinery for collecting the parish tax, it is alleged many inequities are resulting. The bill provides for a uniform 7-cent tax, 5 cents to the state, and 2 cents to be distributed among the parishes.

Oklahoma Fields

(Continued from Page 84)

& Lauck No. 20 Seay, SE SW SW SE section 3-7s-5w, waiting on cement at 1,105 feet, total depth; Farlyn Oil Co. No. 32 Seay, SE NE SW SE section 3-7s-5w, rigging up rotary. In Jackson County, Gulf Oil Corp. No. 3 Byrd, SW NW NW section 14-1-20w, derrick; same operators No. 8 Kelly, NW SE NE section 10-1-20w, drilling at 1,010 feet; J. Ben Russell No. 1 Daniel, NW NE SE section 13-3-20w, wildcat, machine on location.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location:	S.T.R.	Depth	Status
Shell Oil Co., No. 13 Capitan, Santa Barbara Co.	32- 5-30	2,853	completing
Shell Oil Co., No. 15 Capitan, Santa Barbara Co.	32- 5-30	1,170	sd. sh. drlg
Shell Oil Co., No. 16 Capitan, Santa Barbara Co.	32- 5-30	....	rig
La Canada Oil Co., No. 1 Capitan, Santa Barbara Co.	35- 5-30	176	sd. sh. drlg.
Barnsdall-Rio Grande, No. 12 Elwood, Santa Barbara	15- 4-29	6,856	P.B. 6,600
Spalding, Caroline, No. 5 Elwood, Santa Barbara Co.	tideland	3,641	rigging up
York Oil Co., No. 3 Lompoc, Santa Barbara Co.	33- 8-34	....	rigged up
Union Oil Co., No. 6 Santa Maria, Santa Barbara Co.	24-10-34	194	sd. sh. drlg.
Union Oil Co., No. 16 Orcutt, Santa Barbara Co.	26- 9-34	3,743	R.U.S.T.
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co.	25-10-35	3,054	form. test
Bankline Oil Co., No. 1 Coal Oil Pt., Santa Barbara Co.	tideland	5,510	cmtd. 861
Anacapa Oil Co., No. 4 Mesa, Santa Barbara Co.	28- 4-27	2,059	pump. 320 b.d.
Huseley & Harsett, No. 1 Mesa, Santa Barbara Co.	28- 4-27	....	bldg. rig
Calco Pet. Co., No. 1 Las Posas, Ventura Co.	17- 3-20	3,230	O.S. drlg.
Pet. Securities Co., No. 1 Bardsdale, Ventura Co.	7- 3-19	5,140	sd. sh. drlg.
Calkan Pet. Co., No. 1 Sespe, Ventura Co.	23- 5-20	576	sd. sh. drlg.
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,180	hd. sh. drlg.
Wasibi Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	201	cleaning out
Laing & Jacobs, No. 1 Shiells Canyon, Ventura Co.	32- 4-19	1,275	cleaning out
Bestco Pet. Co., No. 1 Shiells Canyon, Ventura Co.	2- 3-19	3,572	hd. sd. drlg.
Bankline Oil Co., No. 1 Shiells Canyon, Ventura Co.	3- 3-19	4,617	cmtd. 4,617
Petroleum Securities, No. 1 Shiells Canyon, Ventura	3- 3-19	3,587	sd. sh. drlg.
Texas Co., No. 129 Shiells Canyon, Ventura Co.	4- 3-19	4,812	P.B. 4,260
Texas Co., No. 130 Shiells Canyon, Ventura Co.	4- 3-19	2,971	hd. sd. drlg.
Texas Co., No. 131 Shiells Canyon, Ventura Co.	4- 3-19	2,292	sd. sh. drlg.
Hull, James, No. 1 Santa Susana, Ventura Co.	2- 2-18	1,791	recmtd. 500
Bolsa Chica Oil Co., No. 3 Temescal, Ventura Co.	4- 4-18	2,684	br. sh. drlg.
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co.	4- 4-18	799	hd. sh. drlg.
Ventura Expl. Co., No. 1 Saticoy, Ventura Co.	30- 3-22	7,073	rigging up
General Pet. Corp., No. 2 Oxnard, Ventura Co.	26- 2-23	7,291	sd. sh. drlg.
Rincon Oil Co., No. 3 Rincon, Ventura Co.	tideland	2,109	pump. 80 b.d.
Continental Oil Co., No. 5 San Miguelito, Ventura Co.	24- 3-24	4,992	sd. sh. drlg.
C. C. M. Oil Co., No. 1 Javon, Ventura Co.	15- 3-24	2,791	sd. sh. drlg.
General Pet. Corp., No. 1 Javon, Ventura Co.	15- 3-24	....	bldg. road
Continental Oil Co., No. 2 Pirie, Ventura Co.	13- 4-23	1,042	deepening
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	6,421	sd. sh. drlg.
Associated Oil Co., No. 2 Lost Hills, Kern Co.	2-26-20	951	sd. sh. drlg.
Richfield Oil Co., No. 2 Devil's Den, Kern Co.	14-25-18	3,509	dry; abd.
East Puente Oil Co., No. 21 McKittrick, Kern Co.	11-30-21	961	sd. sh. drlg.
Calcrude Pet. Co., No. 1 McKittrick, Kern Co.	34-30-22	1,436	cmtd. 838
Welport Oil Co., No. 14 McKittrick, Kern Co.	26-29-21	1,572	bailing
Bergman, H. L., No. 1 McKittrick, Kern Co.	30-30-22	951	cmtd. 302
General Pet. Co., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Standard Oil Co., No. 4 North Belridge, Kern Co.	36-27-20	7,697	sd. sh. drlg.
Associated Oil Co., No. 5 North Belridge, Kern Co.	34-27-20	6,230	hd. sh. drlg.
Belridge Oil Co., No. 18-35 North Belridge, Kern Co.	35-27-20	6,877	sd. sh. drlg.
Belridge Oil Co., No. 17-35 North Belridge, Kern Co.	35-27-20	7,695	sd. sh. drlg.
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	9,684	br. sh. drlg.
Union Oil Co., No. 21 North Belridge, Kern Co.	36-27-20	7,430	br. sh. drlg.
Continental Oil Co., No. 7 North Belridge, Kern Co.	36-27-20	8,520	flow. 4,010 b.d.
C. C. M. Oil Co., No. 18 Kern Front, Kern Co.	23-28-27	2,110	redrlg. 1,192
C. C. M. Oil Co., No. 19 Kern Front, Kern Co.	23-28-27	....	rigged up
Republic Pet. Co., No. 11 Kern Front, Kern Co.	11-28-27	1,952	rig. to pump
Republic Pet. Co., No. 12 Kern Front, Kern Co.	24-28-27	1,997	pump. 301 b.d.
Republic Pet. Co., No. 13 Kern Front, Kern Co.	13-28-27	1,725	sd. sh. drlg.
Seven Spot Oil Co., No. 1 Kern Front, Kern Co.	13-28-27	....	rigging up
Vega Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	1,755	P.B. 1,700
National Oil Co., No. 5 Kern Front, Kern Co.	1-28-27	2,000	sd. sh. drlg.
National Oil Co., No. 6 Kern Front, Kern Co.	11-28-27	1,902	sd. sh. drlg.
General Pet. Corp., No. 6 Kern Front, Kern Co.	14-28-27	1,671	sd. sh. drlg.
Associated Oil Co., No. 7 Kern Front, Kern Co.	23-28-27	2,100	pump. 415 b.d.
Standard Oil Co., No. 14 Kern Front, Kern Co.	15-28-27	2,175	rig. to pump
Union Oil Co., No. 8 Kern Front, Kern Co.	11-28-27	1,692	cleaning out
American Expl. Co., No. 1 Kern Front, Kern Co.	16-28-27	2,760	sd. sh. drlg.
Ausbrit Oil Co., No. 1 Premier, Kern Co.	20-27-27	2,139	P.B. 2,075
Poso Pet. Co., No. 1 Premier, Kern Co.	2-27-27	2,004	gr. sd. drlg.
Union Oil Co., No. 1 Premier, Kern Co.	8-27-27	1,550	sd. sh. drlg.
Unger, M., No. 1 Dominion, Kern Co.	27-26-28	1,619	dry; abd.
Santa Carla Oil Co., No. 1 Dominion, Kern Co.	19-26-28	951	sd. sh. drlg.
McMahan, Hugh, No. 1 Mount Poso, Kern Co.	27-26-28	1,537	pump. water
Cal-Coast Apex Oil Co., No. 1 Mount Poso, Kern Co.	6-27	1,550	hd. sd. drlg.
General Pet. Corp., No. 13 Mount Poso, Kern Co.	16-27-28	1,583	rig. to pump
General Pet. Corp., No. 14 Mount Poso, Kern Co.	16-27-28	....	rigging up
Bargol Oil Co., No. 1 Mount Poso, Kern Co.	11-27-27	2,005	gr. sd. drlg.
Tilton & Harp, No. 1 Mount Poso, Kern Co.	6-27-28	1,890	sd. sh. drlg.
Lytle, R. S., No. 1 Mount Poso, Kern Co.	26-27-28	171	sd. sh. drlg.
Connelly, T. E., No. 1 Fruitvale, Kern Co.	21-29-27	4,800	dry; abd
Mosebach Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,006	hd. sh. drlg.
Trico Oil & Gas Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,472	sd. sh. drlg.
Magnet Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,112	pump. 280 b.d.
Western Gulf Oil Co., No. 23 Fruitvale, Kern Co.	27-29-27	3,807	flow. 320 b.d.
Western Gulf Oil Co., No. 24 Fruitvale, Kern Co.	22-29-27	2,361	sd. sh. drlg.
Mohawk Oil Co., No. 16 Fruitvale, Kern Co.	26-29-27	....	bldg. rig
Nydia Pet. Co., No. 1 Fruitvale, Kern Co.	26-29-27	3,140	sd. sh. drlg.
Hogan Pet. Co., No. 14 Mountain View, Kern Co.	32-30-29	5,915	flow. 835 b.d.
Hogan Pet. Co., No. 15 Mountain View, Kern Co.	4-31-29	4,920	sd. sh. drlg.
Hogan Pet. Co., No. 16 Mountain View, Kern Co.	32-30-29	....	rigging up
Buffalo Oil Co., No. 3 Mountain View, Kern Co.	19-30-29	3,283	sd. sh. drlg.
Petrol Prod. Co., No. 1 Mountain View, Kern Co.	32-30-29	3,184	sd. sh. drlg.
Mohawk Oil Co., No. 16 Mountain View, Kern Co.	30-30-29	6,074	tested wet
Mohawk Oil Co., No. 18 Mountain View, Kern Co.	30-30-29	5,985	rig. to pump
Mohawk Oil Co., No. 19 Mountain View, Kern Co.	30-30-29	....	rigged up
Treasure Oil Co., No. 1 Mountain View, Kern Co.	12-30-28	4,941	sd. sh. drlg.
Jergins Trust, No. 8 Mountain View, Kern Co.	19-30-29	5,241	cmtd. 5,075
Shell Oil Co., No. 9 Mountain View, Kern Co.	32-30-29	5,996	pump. 190 b.d.
Shell Oil Co., No. 10 Mountain View, Kern Co.	32-30-29	5,990	cleaning out
Shell Oil Co., No. 11 Mountain View, Kern Co.	32-30-29	4,672	fish. D.P.
Vesta Pet. Co., No. 10 Mountain View, Kern Co.	19-30-29	3,980	sd. sh. drlg.
Mohawk Pet. Co., No. 1 Arvin, Kern Co.	10-31-29	3,271	sd. sh. drlg.
R. & R. Dev. Co., No. 3 Arvin, Kern Co.	32-30-30	316	sd. sh. drlg.
Ohio Oil Co., No. 1 Rio Bravo, Kern Co.	1-30-25	8,145	sd. sh. drlg.
Shell Oil Co., No. 1 Stevens, Kern Co.	29-30-26	7,888	flow. 590 b.d.
Round Mountain Oil Co., No. 2 Round Mountain, Kern	19-28-29	1,913	fish. bailer
Barnsdall Oil Co., No. 6 Round Mountain, Kern Co.	7-28-29	1,102	sd. sh. drlg.
Shell Oil Co., No. 5 Round Mountain, Kern Co.	7-28-29	1,548	temp. sus.
Shell Oil Co., No. 6 Round Mountain, Kern Co.	7-28-29	1,594	redrlg. 781
Shell Oil Co., No. 7 Round Mountain, Kern Co.	7-28-29	....	bldg. rig
Shell Oil Co., No. 8 Round Mountain, Kern Co.	7-28-29	....	bldg. rig
Shell Oil Co., No. 9 Round Mountain, Kern Co.	7-28-29	....	bldg. rig
Shell Oil Co., No. 11 Round Mountain, Kern Co.	7-28-29	1,630	pump. 618 b.d.
Shell Oil Co., No. 12 Round Mountain, Kern Co.	7-28-29	1,750	pump. 645 b.d.
Shell Oil Co., No. 13 Round Mountain, Kern Co.	7-28-29	....	bldg. rig
Shell Oil Co., No. 14 Round Mountain, Kern Co.	7-28-29	1,660	sd. sh. drlg.
Honolulu Oil Corp., No. 18 Round Mountain, Kern Co.	20-28-29	1,940	pump. 112 b.d.
Honolulu Oil Corp., No. 19 Round Mountain, Kern Co.	20-28-29	1,903	test. W.S.O.
Honolulu Oil Corp., No. 20 Round Mountain, Kern Co.	18-28-29	....	rigging up
Honolulu Oil Corp., No. 21 Round Mountain, Kern Co.	18-28-29	....	bldg. rig
Benito Huntington Oil, No. 1 Round Mountain, Kern	8-28-29	1,230	sd. sh. drlg.
Piute Holding Co., No. 1 Round Mountain, Kern Co.	17-28-29	....	bldg. rig
Jergins Trust, No. 20 Edison, Kern Co.	13-30-29	1,560	test. W.S.O.
Jergins Trust, No. 24 Edison, Kern Co.	23-30-29	1,330	sd. sh. drlg.
Jergins Trust, No. 25 Edison, Kern Co.	14-30-29	1,160	sd. sh. drlg.
Buffalo Oil Co., No. 2 Edison, Kern Co.	24-30-29	928	pump. 75 b.d.
Buffalo Oil Co., No. 3 Edison, Kern Co.	21-30-29	....	rig mtl.
Wood-Callahan Oil Co., No. 1 Edison, Kern Co.	21-30-29	2,441	sd. sh. drlg.
Wood-Callahan Oil Co., No. 2 Edison, Kern Co.	23-30-29	1,130	sd. sh. drlg.
Wood-Callahan Oil Co., No. 3 Edison, Kern Co.	21-30-29	....	bldg. rig
Higgins, W. F., No. 1 Edison, Kern Co.	17-30-29	3,018	sd. sh. drlg.
M. & L. Oil Co., No. 1 Edison, Kern Co.	23-30-29	....	bldg. rig
General Pet., No. 18 Edison, Kern Co.	11-30-29	....	rig
Texas Co., No. 8 Edison, Kern Co.	23-30-29	2,115	cmtd. 1,995
Pioneer Holding Co., No. 2 Edison, Kern Co.	7-30-30	1,481	gr. sd. drlg.
Texas Co., No. 1 San Emidio, Kern Co.	11-11-22	7,622	will deepen
Bender, E. A., No. 1 San Emidio, Kern Co.	14-10-22	488	bailed dry
Seaboard Oil Corp., No. 3 Buttonwillow, Kern Co.	8-28-23	3,145	sd. sh. drlg.
Elk Hills Pet. Co., No. 1 Elk Hills, Kern Co.	14-31-24	....	bldg. rig
C. C. M. Oil Co., No. 28 Midway-Sunset, Kern Co.	28-32-23	....	bldg. rig
Evans, H. B., No. 11 Midway-Sunset, Kern Co.	35-32-23	606	sd. sh. drlg.
Gibson Oil Co., No. 5 Midway-Sunset, Kern Co.	8-11-23	....	rig
Gibson Oil Co., No. 6 Midway-Sunset, Kern Co.	6-11-23	2,854	flow. 1,600 b.d.
Chief Oil Co., No. 3 Midway-Sunset, Kern Co.	6-11-23	2,441	sd. sh. drlg.
General Pet. Corp., No. 61 Midway-Sunset, Kern Co.	24-31-23	1,200	idle
General Pet. Corp., No. 2 Midway-Sunset, Kern Co.	6-11-23	2,802	cmtd. 2,588
General Pet. Corp., No. 15-B Midway-Sunset, Kern Co.	6-11-23	....	rigging up
Signal Oil Co., No. 6 Midway-Sunset, Kern Co.	8-11-23	....	bldg. rig
Hoyt, Otis, No. 1 Midway-Sunset, Kern Co.	7-11-23	1,617	rig. to pump
Bankline Oil Co., No. 1 Midway-Sunset, Kern Co.	6-11-23	2,997	br. sh. drlg.
Standard Oil Co., No. 25 Midway-Sunset, Kern Co.	36-12-24	2,896	cmtd. 2,525
Standard Oil Co., No. 30 Midway-Sunset, Kern Co.	31-12-23	3,529	bailing
Standard Oil Co., No. 203 Midway-Sunset, Kern Co.	5-11-23	....	bldg. rig
Standard Oil Co., No. 219 Midway-Sunset, Kern Co.	33-32-24	....	bldg. rig
Quality Oil Co., No. 2 Midway-Sunset, Kern Co.	22-32-23	1,985	pump. 290 b.d
South Cerritos Oil Co., No. 1 Midway-Sunset, Kern Co.	23-32-23	965	sd. sh. drlg.
Berry Holding Co., No. 23 Midway-Sunset, Kern Co.	34-12-24	970	pump. 70 b.d.
Alford Oil Co., No. 5 Midway-Sunset, Kern Co.	4-32-23	3,180	cmtd. 3,132
Burkeholder Oil Corp., No. 1 Midway-Sunset, Kern Co.	23-32-23	1,291	sd. sh. drlg.
Fairfield, F. E., No. 1 Midway-Sunset, Kern Co.	23-32-23	....	bldg. rig
Texas Co., No. 15 Midway-Sunset, Kern Co.	32-32-24	2,076	sd. sh. drlg.
Obispo Oil Co., No. 12 Midway-Sunset, Kern Co.	32-12-23	2,797	fish. D.P.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Jerman, R. W., No. 1 Midway-Sunset, Kern Co.	31-12-23	3,380	P.B. 2,780
Ohio Oil Co., No. 7 Buena Vista Lake, Kern Co.	5-32-26	4,217	cmtd. 4,177
Ohio Oil Co., No. 1 Tejon, Kern Co.	36-11-19	2,551	sd. sh. drlg.
Reserve Oil & Gas Co., No. 1 Tejon, Kern Co.	32-11-19	6,032	P.B. 4,805
Reserve Oil & Gas Co., No. 5 Tejon, Kern Co.	32-11-19	....	bldg. rig
Tejon Ridge Oil Co., No. 1 Comanche, Kern Co.	22-32-29	2,397	cleaning out
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	6,000	hd. sd. drlg.
Conlon, J. M., No. 1 Coalinga, Fresno Co.	30-19-15	1,120	sd. sh. drlg.
Standard Oil Co., No. 1 South Coalinga, Fresno Co.	36-21-14	2,163	dry; abd.
Union Oil Co., No. 1 Lillis-Welsh, Fresno Co.	24-21-16	11,127	P.B. 10,729
K. N. D. A., No. 2 Kettleman North, Fresno Co.	20-21-17	8,309	hd. sh. drlg.
K. N. D. A., No. 38 Kettleman North, Fresno Co.	18-21-17	6,350	sd. sh. drlg.
K. N. D. A., No. 43 Kettleman North, Fresno Co.	30-21-17	....	rig
K. N. D. A., No. 74 Kettleman North, Fresno Co.	30-21-17	7,753	sd. sh. drlg.
K. N. D. A., No. 81 Kettleman North, Fresno Co.	24-21-16	4,872	sd. sh. drlg.
K. N. D. A., No. 36 Kettleman North, Kings Co.	36-22-18	9,733	P.B. 9,065
K. N. D. A., No. 63 Kettleman North, Fresno Co.	26-21-17	....	bldg. rig
Standard Oil Co., No. 25 Kettleman North, Fresno Co.	19-21-17	7,071	br. sh. drlg.
Standard Oil Co., No. 42 Kettleman North, Fresno Co.	19-21-17	6,485	sd. sh. drlg.
Standard Oil Co., No. 56 Kettleman North, Fresno Co.	19-21-17	6,900	br. sh. drlg.
Standard Oil Co., No. 66 Kettleman North, Fresno Co.	19-21-17	7,920	br. sh. drlg.
Standard Oil Co., No. 72 Kettleman North, Fresno Co.	19-21-17	7,925	hd. sd. drlg.
Standard Oil Co., No. 3 Kettleman Middle, Kings Co.	19-23-19	....	bldg. rig
Kettleman View Oil Co., Well No. 1, Kings Co.	29-22-19	1,629	recmt. 1,451
Commonwealth Consd. Gas, No. 2 Tulare Lake, Kings	21-22-20	2,495	hd. sh. drlg.
Pismo Pet. Corp., No. 2 Pismo, San Luis Obispo Co.	5-32-13	....	bldg. rig
United Oil Co., No. 1 Panorama, San Luis Obispo Co.	2-32-21	651	sd. sh. drlg.
Taft Well Drlg. Co., No. 1 Pismo, San Luis Obispo Co.	31-31-13	3,700	br. sh. drlg.
Martin, J. D., No. 4 Pismo, San Luis Obispo Co.	5-32-13	2,236	sd. sh. drlg.
Martin, J. D., No. 5 Pismo, San Luis Obispo Co.	5-32-13	1,996	sd. sh. drlg.
Birch-Royer Oil Co., No. 1 Pismo, San Luis Obispo Co.	33-31-13	1,850	redrlg. 1,464
Jergins Trust, No. 1 Pismo, San Luis Obispo Co.	5-32-13	....	rigging up
Barnsdall Oil, No. 1 Carissa Plains, San Luis Obispo	24-28-17	3,559	redrlg 3,381
Bacon, E. D., No. 1 Carissa Plains, San Luis Obispo Co.	22-31-21	298	idle
Burch, I. L., No. 1 Cuyama, San Luis Obispo Co.	4-10-26	252	sd. sh. drlg.
Standard Oil Co., No. 1 McDonald Island, San Joaquin	25- 2-4	5,227	20,000 m.c.f.
Pure Oil Co., No. 3 Chowchilla, Madera Co.	17-10-14	2,709	cmtd. 2,632
Northern Counties Pet., No. 1 Tehama, Tehama Co.	25-24-3	7,997	hd. sh. drlg.
Shell Oil Co., No. 1 Branch, Monterey Co.	34-24-10	9,000	sd. sh. drlg.
Hillman & Anderson, No. 1 Parkfield, Monterey Co.	15-24-14	....	bldg. rig
Texas Co., No. 2 Eureka, Humboldt Co.	22- 3-1	4,357	mill. 4,149
Amerada Pet. Co., No. 1 Emigh, Solano Co.	26- 4-2	4,410	will cmt.
Fortine, W. H., No. 1 Terra Bella, Tulare Co.	22-22-26	....	rigging up

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location:	S.T.R.	Depth	Status
Marvin, J. L., No. 1 El Segundo, Los Angeles Co.	7- 3-14	7,521	form. test
Ohio Oil Co., No. 1 El Segundo, Los Angeles Co.	7- 3-14	2,576	sd. sh. drlg.
Signal Finance, No. 1 Hawthorne, Los Angeles Co.	10- 3-14	3,841	rigged up
Brown, R. A., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,243	sd. sh. drlg.
White Fire Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,700	bailing
Walsh Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	....	rig
Pongratz Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	1,261	sd. sh. drlg.
Linderman, G. K., No. 2 Torrance, Los Angeles Co.	31- 3-14	....	rigged up
Regent Oil Co., No. 1 Torrance, Los Angeles Co.	6- 4-14	2,385	sd. sh. drlg.
Sterling Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	4,200	redrlg. 3,098
Sterling Oil Co., No. 2 Torrance, Los Angeles Co.	31- 3-14	3,271	sd. sh. drlg.
Walken Oil Co., No. 1 Torrance, Los Angeles Co.	5- 4-14	3,618	pump. 385 b.d.
Dumas-Brown Oil Co., No. 1 Torrance, Los Angeles Co.	6- 4-14	3,517	pump. 360 b.d.
Dumas-Lewis Oil Co., No. 2 Torrance, Los Angeles Co.	6- 4-14	1,171	sd. sh. drlg.
B. & N. Oil Co., No. 1 Torrance, Los Angeles Co.	18- 4-14	3,427	bailing
Lawler Pet. Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,520	O.S. drlg.
Macvan Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,741	sd. sh. drlg.
Redondo Oil Corp., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,643	pump. 280 b.d.
Tu-Jax Oil Co., No. 1 Torrance, Los Angeles Co.	32- 3-14	3,737	pump. 298 b.d.
Southwestern Pet. Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	....	rigging up
Continental Royalties, No. 1 Torrance, Los Angeles Co.	6- 4-14	1,030	cmtd.
Rennek Oil & Gas Co., No. 1 Torrance, Los Angeles Co.	5- 4-14	3,448	cleaning out
Rennek Oil & Gas Co., No. 2 Torrance, Los Angeles Co.	5- 4-14	720	sd. sh. drlg.
C. C. M. Oil Co., No. 23 Torrance, Los Angeles Co.	8- 4-14	4,887	test wet
Silver Pet. Co., No. 1 Inglewood, Los Angeles Co.	16- 2-14	1,684	sd. sh. drlg.
West American Oil Co., No. 1 Dominguez, Los Angeles	3- 4-13	8,584	sd. sh. drlg.
Crude Oil Drlg. Co., No. 1 Gardena, Los Angeles Co.	31- 3-13	....	foundation
Union Oil Co., No. 8 Dominguez Carson, Los Angeles	33- 3-13	7,097	sd. sh. drlg.
Barnsdall Oil Co., No. 15 Rosecrans, Los Angeles Co.	18- 3-13	5,590	sd. sh. drlg.
Republic Pet. Co., No. 1 Rosecrans, Los Angeles Co.	18- 3-13	1,195	cmtd. 1,195
Pierce Pet. Co., No. 1 Rosecrans, Los Angeles Co.	18- 3-13	....	bldg. rig
Mars Oil Co., No. 1 Athens, Los Angeles Co.	7- 3-13	3,968	cleaning out
Associated Oil Co., No. 18 Seal Beach, Los Angeles Co.	11- 5-12	6,212	cmtd. 6,155
Continental Oil Co., No. 39 Seal Beach, Los Angeles	3- 5-12	1,891	sd. sh. drlg.
Standard Oil Co., No. 27 Seal Beach, Los Angeles Co.	3- 5-12	6,500	sd. sh. drlg.
Eastern Oil Co., No. 1 Del Rey, Los Angeles Co.	22- 2-15	7,420	cleaning out
Deuel, W. E., No. 1 Del Rey, Los Angeles Co.	27- 2-15	....	bldg. rig
Union Oil Co., No. 22 Del Rey, Los Angeles Co.	27- 2-15	5,877	sd. sh. drlg.
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co.	1- 3-16	2,024	cmtd. 1,673
Jones & Co., No. 1 Newhall, Los Angeles Co.	36- 4-17	....	rig
Pomaco Royalty Co., No. 1 Palos Verdes, Los Angeles	1- 5-14	....	bldg. rig
Harbor Pet. Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	3,544	cmtd. 3,489
Hull, James, No. 1 Wilmington, Los Angeles Co.	20- 4-13	725	sd. sh. drlg.
Codri Oil Co., No. 1 Wilmington, Los Angeles Co.	29- 4-13	3,853	sd. sh. drlg.
General Pet. Corp., No. 1 Wilmington, Los Angeles Co.	4- 5-13	2,694	cmtd. 2,450
Monarch Oil Corp., No. 1 Topango Canyon, Los Angeles	5- 1-16	1,530	sd. sh. drlg.
Standard Oil Co., No. 79 Montebello, Los Angeles Co.	2- 2-12	3,715	pump. 25 b.d.
Standard Oil Co., No. 81 Montebello, Los Angeles Co.	2- 2-12	3,950	pump. 240 b.d.
Standard Oil Co., No. 82 Montebello, Los Angeles Co.	2- 2-12	8,163	hd. sh. drlg.
Standard Oil Co., No. 85 Montebello, Los Angeles Co.	2- 2-12	....	bldg. rig
Standard Oil Co., No. 86 Montebello, Los Angeles Co.	2- 2-12	....	bldg. rig
Universal Consd., No. 6 Montebello, Los Angeles Co.	5- 2-11	5,572	flow. 1,610 b.d.
Universal Consd., No. 7 Montebello, Los Angeles Co.	5- 2-11	....	bldg. rig
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co.	5- 2-11	5,905	243 b.d.
Richfield Oil Co., No. 1 Montebello, Los Angeles Co.	5- 2-11	6,071	form. test
Richfield Oil Co., No. 2 Montebello, Los Angeles Co.	5- 2-11	5,421	cmtd. 5,400
North American, No. 2 Montebello, Los Angeles Co.	5- 2-11	6,025	sd. sh. drlg.
St. Helens Pet. Co., No. 7 Montebello, Los Angeles Co.	5- 2-11	4,787	hd. sd. drlg.
Keystone Oil Co., No. 1 Pico, Los Angeles Co.	9- 2-11	4,332	reaming
Bernstein, M. E., No. 1 Artesia, Los Angeles Co.	25- 3-12	5,888	redrlg. 3,950
McVicar & Rood, No. 1 San Jose Hills, Los Angeles Co.	6- 2-9	1,975	sd. sh. drlg.
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co.	36- 5-5	2,510	hd. sd. drlg.
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	2,130	bail. sand
Terry, George, No. 1 Westminister, Orange Co.	17- 5-11	4,480	sd. sh. drlg.
Hillman & Long, No. 1 Westminister, Orange Co.	14- 5-11	7,701	cmtd. 5,557
B. A. L. Oil Co., No. 1 Huntington, Orange Co.	36- 5-11	2,287	cleaning out
West American Oil Co., No. 1 East Coyote, Orange Co.	24- 3-10	1,431	sd. sh. drlg.
Bartholomae Oil Co., No. 2 East Coyote, Orange Co.	24- 3-10	4,020	sd. sh. drlg.
Union Oil Co., No. 22 Chapman Richfield, Orange Co.	30- 3-9	796	sd. sh. drlg.
Union Oil Co., No. 29 Chapman Richfield, Orange Co.	30- 3-9	3,641	pump. 295 b.d.
Union Oil Co., No. 31 Chapman Richfield, Orange Co.	30- 3-9	3,257	cmtd. 3,241
Union Oil Co., No. 32 Chapman Richfield, Orange Co.	30- 3-9	2,581	sd. sh. drlg.
Tehama Pet. Co., No. 2 Kraemer, San Bernardino Co.	33- 2-8	566	sd. sh. drlg.
Tehama Pet. Co., No. 3 Kraemer, San Bernardino Co.	33- 3-8	312	sd. sh. drlg.
Tehama Pet. Co., No. 4 Kraemer, San Bernardino Co.	32- 2-8	148	hd. sd. drlg.
Equitable Pet. Co., No. 1 Wildcat, San Bernardino Co.	11-10-5	2,398	hd. sd. drlg.

KANSAS

Week Ending June 6. (Descriptions are East unless marked otherwise)

Barber County

Sinclair Prairie Oil Co. No. 1 Gentry, NE cor. sec. 1-33-15w. Bldg. rig.

Barton County

J. A. Brouk et al No. 1 Keil, SE SE NE sec. 11-16-15w. Rig.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w. S.D. 63 ft.

Davison et al No. 1 Birzer, SW SE SW sec. 22-17-12w. Anhydrite 760 ft.; Topeka 2,770 ft.; drlg. 3,045 ft.

G. H. Rose and W. H. Lant No. 1 Redetzke, NE NW NW sec. 1-16-11w. Spudded.

Rose Spring Drlg. Co. et al No. 1 Rick, SW cor. sec. 1-19-11w. Set 13-in. csg.

Schermerhorn Oil Co. No. 1 Hunter, NE cor. sec. 29-18-15w. K.C. 3,194 ft.; La Motte; Juartzite 3,565-76 ft. T.D.; P.B. 3,540 ft.; 17,000,000 ft. of gas and spray of oil.

Torry & Feaster No. 1 Feist, NE NE SE sec. 29-18-11w. Siliceous L. 3,430-32½ ft.; T.D.; potential; pumped 346 bbls. oil in 18½ hrs.

Wakefield & Johnson No. 1 Bumm, SW SW NE sec. 23-19-12w. Anhydrite 665 ft.; drlg. 2,130 ft.

Butler County

Dalton et al No. 1 Miley, C SW NE sec. 17-27-5. R.U.

Ellis et al No. 1-A Pettit, SE SE NW sec. 21-28-6. Drlg. 2,930 ft.

McGinnis et al No. 1 Hinnen, NE NE SW sec. 18-24-4. Drlg. 1,650 ft.

Rex & Morris No. 1 Olson, NW SW SE sec. 15-28-6. Drlg. 1,810 ft.

Ed Solomon No. 1 Church, SW NE SE sec. 8-28-5. R.U. mch.

Cowley County

Baden Prod. Co. No. 1 Sparks, SE SW NW sec. 35-33-4. Drlg. 1,934 ft.

Benedum-Trees No. 1 Carson, SW SW NW sec. 8-30-4. Drlg. 2,475 ft.

Craft et al No. 1 Whitson, NE NE NE sec. 20-33-4. Drlg. 50 ft.

DeGenther Oil Co. No. 1 Holt, NW NW SE sec. 15-30-5. Spd. and S.D.

W. M. McKnabb No. 1 Community, C NE NW sec. 14-34-3. Drlg. 1,350 ft.

A. D. Morton et al No. 1 Roger, SE SE NE sec. 1-31-4. Drlg. 460 ft.

Roth & Faurot No. 1 Guthrie, NW cor. Lot 14, sec. 30-33-5. H.F.W. 3,146 ft.; P.B. 2,900 ft.; acidized; flowed 22 bbls. in 1 hr.

Cameron & Pulse No. 1 Simpson, C NE NW sec. 3-30-4. Drlg. 1,030 ft.

Wakefield et al No. 1 Daniels, SE SW SE sec. 3-30-3. Drlg. 2,900 ft.

Decatur County

Winkler & Koch No. 1 Veasey, C NW SE sec. 26-3-26w. Rig.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. Anhydrite 1,167 ft.; K.C. 4,028 ft. (cor.); R.U.S.T. 4,055 ft.

Ellis County

Albec Oil Co. No. 1 Union Pacific, NE cor. sec. 9-13-20w. Oswald 3,418 ft.; cg.

Bradley Oil Co. et al No. 1 Penney-Wann, SE cor. sec. 13-15-20w. Anhy. 1,277 ft.; S.R. 1,295 ft.

James Brouk et al No. 1 Jacobs, NW NW SE sec. 31-15-16w. R.U.

Empire O. & R. Co. No. 1 Herl, SE cor. sec. 22-15-19w. Anhydrite 1,135 ft.; drlg. 1,595 ft.

Empire O. & R. Co. No. 1 Samuelson, NE NE SE sec. 31-11-16w. Loc.

Bridgeport Machine Co. et al No. 1 Madden Est., NE NW NW sec. 26-15-18w. Anhy. 1,150 ft.; C.O. 3,010 ft.

Brunson & Ewers-Simpson No. 1 Gross, NE NE SW sec. 29-14-17w. Anhydrite 1,110 ft.; Topeka 2,960 ft.; Oswald 3,244-46 ft.; Siliceous 3,507 ft.

Harris & Haun et al No. 1 Schmeidler, SE SE SW sec. 3-13-17w. Drlg. 3,190 ft.

Jones & Shelbourne No. 1 Gunther, SE SE SW sec. 9-11-19w. Set 15-in. csg. 575 ft.; C.O.

Jones Bros. & Carpenter et al No. 1 Solomon, SE SE SW sec. 28-11-19w. Anhydrite 1,408 ft.; Oswald 3,340 ft.; S.D. 3,443 ft.

Kansas Dev. Corp. No. 1 Haller, SE SE NW sec. 10-11-18w. M.I.M.

Muth et al No. 1 Penney, SW SW SE sec. 29-14-18w. M.I.M.

Parrish & Denman No. 1 Walter, SE SW SE sec. 14-13-17w. Anhydrite 1,152 ft.; drlg. 2,025 ft.

J. E. Trigg et al No. 1 Armbrister, SE SE SW sec. 6-11-19w. T.D. 125 ft.; W. O.C.

Twin Drlg. Co. No. 1 Copeland, NE NE SW sec. 26-14-19w. Anhydrite 1,350 ft.; drlg. 3,485 ft.

Twin Drlg. Co. et al No. 1 Schmidt, SW SW SE sec. 22-15-17w. R.U.

Vickers Pet. Co. No. 1 Kraus, SW SW NW sec. 22-14-19w. Drlg. 1,388 ft.

Wolf Creek Oil Co. et al No. 1 Polifka, SW SW NE sec. 24-13-18w. Cellar.

Yarnell & Carlson No. 1 Phillip, NW NW SE sec. 2-14-18w. Anhydrite 1,227 ft.; Oswald 3,332-34 ft.; Siliceous 3,643 ft.; drlg. 3,652 ft.

Ellsworth County

York State Oil Co. No. 1 Koestle, NW NW SE sec. 12-17-9w. M.I.M.

Finney County

Helmerich & Payne No. 1 Jones, C SE sec. 34-26-34w. Rig.

Lone Star State Drlg. Co. No. 1 Hamlin, SW SW NE sec. 31-24-34w. Set 6-in. csg. 2,418 ft.; drlg. 2,451 ft.

Graham County

Noah & Young No. 1 Hills, NW SE SE sec. 19-10-21w. Rig.

Vickers Pet. Co. and Phillips Pet. Co. No. 1 Hutton, NE NE SE sec. 29-8-22w. Anhydrite 1,805 ft.; H.F.W. 3,290 ft.; U.R. at 3,315 ft.

Greenwood County

Estes et al No. 1 Edgar, NW NW SE sec. 1-28-8. Fsg. 1,030 ft.

Hale & Reese No. 1 Needles, NE SE NW sec. 12-25-16. S.D. 285 ft.

Ward McGinnis No. 1 Lampe, NW NE SW sec. 26-24-8. Drlg. 740 ft.

Harper County

Marathon Oil Co. No. 1 Zellers, C SW NW sec. 17-35-8w. Wilcox sand 5,320 ft.; S.O. and gas, salty taste; T.D. 5,410 ft.; set whipstock.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. Fsg. 2,875 ft.

Haskell County

Helmerich & Payne et al No. 1 Larson, C SE sec. 28-28-33w. Rig.

Helmerich & Payne No. 1 Meredith, C SW sec. 10-30-33w. Loc.

Kuhn Bros. et al No. 1 Nilson, SW SW SE sec. 21-28-32w. Drlg. 760 ft.

Kingman County

D. R. Lauck et al No. 1 Prather, C SE sec. 18-27-8w. Drlg. 3,080 ft.

D. R. Lauck et al No. 1 Skilling, C E½ E½ SW sec. 33-27-8w. O.W.D.D.; drlg. 4,583 ft.

Oklahoma Oil Corp. et al No. 1 Reeves, NW cor. sec. 29-27-5w. Drlg. 3,206 ft.

McPherson County

Empire O. & R. Co. No. 1 Cunningham, SE cor. sec. 26-18-1w. Chat 2,803 ft.; T. D. 2,832 ft.; P. 31 bbls. oil, 75 bbls. wtr. in 24 hrs.

Hawkins et al No. 1 Ritikofer, NE NE SE sec. 2-20-10w. R.U.

T. C. Johnson, et al No. 1 A. R. Johnson, SW SW NW sec. 33-17-1w. Drlg. 1,735 ft.

Ness County

Continental Oil Co. No. 1 Thompson, C E½ E½ SW sec. 13-18-26w. Siliceous and S.O. 4,446-50 ft.; T.D. 4,462 ft.; est. 150 B.P.D.

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. Spd. and S.D.

Reno County

Dickey Oil Co. No. 1-A Shepherd, NE NE NW sec. 22-26-9w. Chat 3,870 ft.; wtr., 4,161 ft.; P.B. 4,135 ft.; T.D. 4,153 ft.; acidized; pmpd. 25 bbls. fluid, mostly wtr.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. S.O. 2,874 ft.; H.F.W. 3,-935 ft.; S.D. 2,948 ft.

Graham et al No. 1 Miller, NE NE SE sec. 36-25-10w. Rig.

Miller et al No. 1 Detter, NE SE NW sec. 28-22-7w. Drlg. 157 ft.

Rose Spring Drlg. Co. No. 1 Swansen, NE NE NW sec. 1-23-5w. Drlg. 193 ft.

Rice County

Beardmore et al No. 1 Fuller, SW SW SE sec. 23-18-7w. K.C. 2,777 ft.; Cong. 3,-111-89 ft.; 1 B.P.H. at 3,194-98 ft.

Day No. 1 Mason, NW NE NE sec. 28-21-7w. Chat 3,388-3,400 ft.; acidized, pumped 133 bbls. in 5 hrs.; C.O.

Dickey Oil Co. and Continental Oil Co. No. 1 Newkirk, NE NE SW sec. 11-18-7w. Simpson 3,179 ft.; Viola 3,296 ft.; S.D. 3,354 ft.

Duwe & Schneider No. 1 Wright, NE cor. sec. 36-21-7w. K.C. 2,925 ft.; H.F.W. 3,-055 ft.; drlg. 3,460 ft.

Gilmac Oil Co. No. 1 Sargent, SE cor. sec. 31-18-6w. U.R. 2,610 ft.

Grattan et al No. 1 Williams, SW SW NW sec. 17-18-7w. K.C. L. 2,818 ft.; cg. 3,-202 ft.; H.F.W. 3,307 ft.; T.D. 3,363 ft.

Gulf Oil Corp. No. 1 Steckel, SW cor. sec. 30-19-10w. Set 10-in. csg. 150 ft.

Permian Oil Co. No. 1 Monroe, C NE NE sec. 9-20-7w. Set 10-in. csg. 2,114 ft.; S.D. 2,605 ft.

Saco Oil Co. et al No. 1 Haxton Est., NW NW NE sec. 30-19-8w. Loc.

Sage et al No. 1 Patton, SW cor. sec. 5-21-7w. Rig.

Shell Pet. Corp. et al No. 1 Hafermann, C N½ N½ SE sec. 6-19-9w. Est. 3,000 ft gas; cg. 2,977 ft.

Shell Pet. Corp. No. 1 Maughlin, NE NW SE sec. 11-20-8w. Siliceous 3,235-38 ft.; some sat.; R.U.S.T.

Simpson & Noble et al No. 1 Pulliam, C S½ N½ NE sec. 35-19-8w. K.C. L. 2,-846 ft.; set 8-in. csg. 3,010 ft.

Simpson & Noble and Stanolind O. & G. Co. No. 1 Bowman, SW SW NW sec. 22-19-10w. Anhy. 438 ft.; drlg. 3,049 ft.

Skiles et al No. 1 Stout, SE cor. sec. 6-21-9w. Drlg. 2,759 ft.

Rooks County

Hartman & Blair et al No. 1 Hall, NW cor. sec. 25-10-17w. Drlg. 143 ft.

Helmerich & Payne et al No. 1 Bedard, C NE sec. 29-9-19w. Set 12-in. csg. 75 ft.

L. C. D. Drlg. Co. et al No. 1 Westhusin C NE SE sec. 11-9-17w. Drlg. 143 ft.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Drlg. 1,810 ft.

Murfin et al No. 1 Washusin, NE NE SE sec. 19-9-16w. Drlg. 3,312 ft.

J. A. Shoemake No. 1 Stebbins, NE NE SW sec. 26-7-17w. Drlg. 860 ft.

Skaer Oil Corp. et al No. 1 Dryden, NE cor. sec. 28-10-17w. Drlg. 2,650 ft.

Trees Oil Co. No. 1 Minx, SW cor. sec. 31-10-18w. Loc.

Rush County

Boyle & Grossman No. 1 Wilson, NE cor. sec. 33-17-19w. Drlg. 2,665 ft.

Ira Keith et al No. 1 Dartmouth Savings Bank, SW SW NE sec. 3-17-18w. Oswald 3,335 ft.; R.U.S.T. 3,346 ft.

National Ref. Co. No. 1 Werth, NW NE NE sec. 7-16-18w. Anhydrite 1,195 ft.; Oswald 3,328 ft.; T.D. 3,572 ft.; 800 ft. oil in hole in 24 hrs.

Pryor & Lockhart et al No. 1 Stegman,

SW NW NE sec. 11-16-17w. Anhydrite 1,095 ft.; drlg. 2,985 ft.

Russell County

Armer et al No. 1 Maier, NE NW NE sec. 20-15-14w. R.U.

R. G. Berry et al No. 1 Cook, NE NE SE sec. 19-11-13w. Oswald 3,097 ft.; conglomerate 3,412 ft.; Siliceous 3,532 ft.; S.D. 3,533 ft.; 700 ft. wtr. in hole.

Central Pet. Co. No. 1 Benso "C," SE SE SW sec. 9-14-15w. Drlg. 3,295 ft.

Darby Pet. Corp. and Continental Oil Co. No. 1 Letsch, SE NE NW sec. 34-14-13w. Granite wash 3,238 ft.; granite 3,262-65 ft.; P.B. 2,880 ft.

Eisenhour & Shaffer No. 1 Humes, SW SW SW sec. 6-14-12w. Siliceous 3,276 ft.; T.D. 3,407 ft.; show of wtr.

Hartman & Blair No. 1 Johnston, NW cor. sec. 11-13-14w. Drlg. 545 ft.

Hartman & Blair No. 1 McAllister, SW SW SE sec. 24-13-15w. Anhydrite 940 ft.; C.O. 2,505 ft.

Lario O. & G. Co. et al No. 1 Steinert, NE NE SW sec. 21-15-15w. C.O. 590 ft.

R. C. Tarrant No. 1 Williamson, SE SE NW sec. 9-14-14w. Tarkio L. 2,515 ft.; T.D. 2,550 ft.; swbd. 5 B.P.H. and showing of wtr.; acidized with 1,000 gals.; made potential of 243 bbls. of oil.

P. G. Reynolds No. 1 Fredrickson, SE SW SE sec. 6-13-12w. Oswald 2,987 ft.; set 6-in. csg. 3,017 ft.; T.D. 3,170 ft.; P.B. 3,040 ft.; acidized.

Wakefield et al No. 1 Krug, NE NW SW sec. 7-15-14w. Anhy. 345 ft.; set 8-in. csg. 2,485 ft.

Saline County

James Brouk et al No. 1 Othelander, NE NW SE sec. 10-16-3w. Spudded and S.D.

Sedgwick County

Joe Aylward et al No. 1 Harrison, SE SE SW sec. 23-25-2. H.F.W. 2,430-35 ft.; set 8-in. csg. 2,480 ft.; C.O.

Dickey Oil Co. No. 1 Avera, SW SW NW sec. 12-27-2. Chat 2,886 ft.; drlg. 3,127 ft.

O. R. Lauck No. 1 Parke, SE SE NE sec. 17-25-2. Drlg. 2,800 ft.

Earl Wakefield et al No. 1 Howard, SE SE NE sec. 25-25-2. Cellar.

Seward County

Helmerich & Payne No. 1 Hyde, C SW sec. 14-31-34w. M.I.M.

Sumner County

Craft & Wilson No. 1 Nevitt, NE NW NE sec. 36-32-2e. Stalnaker 2,223 ft.; K.C. L. 2,608 ft.; S.O. 2,772-83 ft.; C.O. 3,185 ft.

Helmerich & Payne et al No. 1 Elwell, NW NW NE sec. 13-34-1. Chat 3,867 ft.; S.D. 4,000 ft.

D. L. Husted et al No. 1 Evers, SE SE NE sec. 27-31-2. Set 12-in. csg. 412 ft.

Matthews & Derrington No. 1 Berry, NW NW SE sec. 14-35-1. Set 8-in. csg. 3,022 ft.

Pryor & Lockhart et al No. 1 Knowles, SW cor. sec. 30-30-1. K.C. L. 2,858 ft.; Chat. 3,499 ft. (cor.); drlg. 3,752 ft.

E. B. Shawver No. 1 Judd, SW SE NE sec. 3-34-2. Drlg. 915 ft.

Texas Co. No. 1 Reed, NE SE SE sec. 11-31-1w. Fsg. 564 ft.

Wilcox O. & G. et al No. 1 Hess, SE SE NW sec. 13-34-2w. Chat 4,120 ft.; Wilcox sd. 4,584 ft.; cg.; S.S.O.&W. in cores.

D. J. Wilson et al No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW sec. 15-35-1w. Drlg. 4,256 ft.

Trego County

Central Commercial No. 1 Wagg, NW NW SE sec. 17-13-21w. K.C. L. 3,548 ft.; bld. 10 bbls. oil in 8 hrs. at 3,950 ft.; S.D. 4,170 ft.

J. J. Hall et al No. 1 Deines, SE SE SE sec. 12-13-24w. Drlg. 1,100 ft.

R. B. McNeely et al No. 1 Lemke, NW NW SW sec. 7-11-22w. Rotary rig.

Woodson County

N. C. Dunn No. 1 Dawson, C NW NE sec. 27-26-13. L. 1,505 ft.; T.D. 1,527 ft.; P.B. 1,300 ft.; H.F.O.; no test.

Foster et al No. 1 Timm, SE NW NE sec. 36-25-13. S.D. 1,465 ft.

Lester et al No. 1 Weidle, NE NE SE sec. 17-25-14. S.D. 675 ft.

C. L. Sheedy No. 1 Abbott, NE NE SW sec. 16-25-14. Drlg. 1,030 ft.

C. L. Sheedy et al No. 1 Fuhlhage, NE NW SW sec. 27-25-14. Drlg. 365 ft.

OKLAHOMA

Week Ending June 6

NORTHERN OKLAHOMA

Beckham County

Jo-Gail Drlg. Co. No. 1 Gilliland, C NE NE sec. 33-8-26w. Machine.

Cleveland County

Hall-Briscoe, Inc., No. 1 Fant, SW SW NE sec. 27-10-2w. S.D. at 7,511 ft.

Asa Lee Mayes, Inc., No. 1 Parsons, SW SW SE sec. 30-9-1. T.D. 3,510 ft.; tools moved out, may make new contract.

Coal County

Carter Oil Co. and Magnolia Pet. Co. No. 1 James, SW NW SW sec. 35-1s-8. B.R.

W. C. Mitchell No. 1 Quiett, NE NW SW sec. 35-1-8. M.I.M.

Shell Pet. Corp. No. 3 Hill, SE SE NW sec. 30-3-10. Hunton 5,280 ft.; Sylvan 5,355 ft.; Viola 5,448 ft.; S.O. 5,640-57 sd. 6,275 ft.; T.D. 6,457 ft.; P.B. 6,330 ft.; to take D.S.

Sinclair Prairie Oil Co. No. 1 Culver, NE NE SW sec. 16-1-8. Rig.

Garfield County

Herndon Drlg. Co. etal No. 1 Branson, SW SW SE sec. 23-24-3w. Drlg. 4,780 ft.

W. J. Sherry et al No. 1 Haken, NW NW SW sec. 32-20-10w. Miss. L. 5,960 ft.; whpstk. 5,839 ft.; T.D. 6,276 ft.; C.O.

Stanolind O. & G. Co. et al No. 1 Brunken, SW SW NE sec. 32-23-4w. Top Dense 5,915 ft.; Dolomite 5,935 ft.; first Wilcox 5,975 ft.; second Wilcox 6,033 ft.; H.F.W. 6,130-33 ft.; T.D. 6,133 ft. in sd.; S.D.O.

Garvin County

Charles E. Carter et al No. 1 Wood, NW SW SE sec. 5-4-3. O.W.D.D.; sd. 2,973 ft.; Hunton 3,000 ft.; cd. 3,010-18 ft.; S.O.

McFlreath & Suggett No. 1 Lasater, SE SE SW sec. 2-2-1w. Drlg. 1,880 ft.

Grady County

John Graham et al No. 1 Castleberry, SW SE NW sec. 8-5-7w. R.U.R.

Ray Stevens No. 1 Mays, NE cor. sec. 1-3-8w. Bldg. drk.

Hughes County

Blackwell O. & G. Co. No. 1 Long, SE NE NW sec. 29-9-9. Sand 1,215-35 ft.; T.D. 1,695 ft.; fsg.

M. H. Halsey No. 1-A Eustep, NW NW SW sec. 11-8-9. Wapanucka 3,428 ft.; Cromwell 3,452 ft.; T.D. 3,454 ft.; 2 bailers wtr. an hr.; P.B. and shot 3,030-45 ft.; est. 10,000,000 ft. of gas; P.B. to 3,412 ft.; re-shot.

George Orr et al No. 1 Morgan, NE SE SW sec. 6-7-9. Cellar and pits.

Phillips Pet. Co. No. 1 Eberle, NE NE SW sec. 12-5-9. Wapanucka 3,887 ft.; Cromwell 4,388 ft.; Mayes 5,160 ft.; Woodford 5,230 ft.; Hunton 5,432 ft.; Sylvan 5,435 ft.; Viola 5,525 ft.; T.D. 5,540 ft.; R.U.S.T.

Sinclair Prairie Oil Co. et al No. 1 Wilkly, SW cor. sec. 23-9-8. Calvin 1,505 ft.; drlg. 2,698 ft.

Sivalls et al No. 1 Montgomery, NW SW NW sec. 7-9-9. Booch 2,950 ft.; Glcrease 3,100 ft.; sd. 3,246-80 ft.; U.R.

Kay County

W. O. Allen No. 1 Fulton, SE cor. sec. 18-27-4. Drlg. 1,425 ft.

Kiowa County

Atlantic Oil Producing Co. No. 1 Ta-Home, NE NW NE sec. 24-7-16w. Drlg. 1,243 ft.

W. C. Adams et al No. 2-A Stone, C SE SE NE sec. 34-7-17w. T.D. 1,193 ft.; machine moved out.

Beeler & Klein No. 1 Parrish, SE SE NW sec. 3-6-15w. R.U.

E. A. De Bolt et al No. 1 Burnett, NW SE NE sec. 30-7-20w. Location.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. Set 10-in. csg. 1,560 ft.; T. D. 1,750 ft.; rep. rig.

Lincoln County

Amerada Petroleum Corp. et al No. 1 Zimmerman, SW SW NE sec. 10-12-5. Drlg. 3,523 ft.

Mid-Continent Pet. Corp. and Texas Co. No. 1 Hillman, SW SE NE sec. 29-13-6. Spudded.

Logan County

W. N. Anthony and H. G. Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1. T.D. 5,285 ft.; P.B. 5,181 ft.; swdg. pipe.

McClain County

Arab Pet. Corp. No. 1 Autry, NW cor. sec. 16-7-3w. T.D. 8,775 ft.; lost drill pipe; top of fish 8,400 ft.; S.D. for repairs.

McCurtain County

Louis Sikes No. 1 Mitchell, C NW SW sec. 12-9s-26. Spudded and S.D. for 30 days.

McIntosh County

S. E. Dieckman No. 1 K. McIntosh, SE cor. sec. 4-12-17. Drlg. 500 ft.

Indian Ty. Ill. Oil Co. No. 1 Tancred, 1-050 ft. S and 390 ft. E of C sec. 9-9-14. Wilcox 4,525 ft.; T.D. 4,536 ft.; P.B. 2,-731 ft.; wtr. exhausted; S.D.O.

Noble County

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Gillham, NE SE SE sec. 14-22-1. Rig.

Okfuskee County

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 1 Wells, SW SW NW sec. 7-11-7. Hunton 4,167 ft.; Wilcox 4,454 ft.; second Wilcox 4,488 ft.; T.D. 4,503 ft.; S.D.

Champlin Ref. Co. No. 1 Thompson, SW SW NW sec. 7-13-8. T.D. 1,147 ft.; fsg.

Oklahoma County

I. D. O'Shaughnessy, Inc. No. 1 Berlowitz, SE SW NE sec. 9-12-3w. Drlg. 2,475 ft.

H. R. Hollenback et al No. 1 Cooper, NW NW NE sec. 15-11-1. Oswego, 5,435 ft. Hunton 5,857 ft.; Sylvan 5,998 ft.; Viola 6,093 ft.; Simpson 6,133 ft.; first Wilcox 6,332 ft.; second Wilcox 6,340-60 ft.; S.D. 6,375 ft.

Osage County

Gray & Folson No. 1 Osage, SW SW NE sec. 33-25-7. Drlg. 1,225 ft.

Midco Oil Corp. et al No. 1 Osage, NW NW SE sec. 11-23-6. Bartlesville 2,725-2,824 ft.; Chat 2,877 ft.; H.F.W. 2,885-93 ft.; S.D.

Stoner Bros. No. 1 Osage, NW NE SW sec. 18-22-8. Spudded.

Payne County

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 1 Pratt, SE cor. sec. 29-19-5. Drlg. 3,440 ft.

Denver Producing & Ref. Co. et al No. 1 Pratt, NW cor. sec. 20-18-3. Bartlesville 4,100 ft.; T.D. 4,103 ft.; R.U.S.T.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Rig.

Pontotoc County

Selby O. & G. Co. No. 1 Sands, NE NE NE sec. 20-3-5. Drlg. 1,217 ft.

Southard & Miller No. 1 Wilson, NW SE SW sec. 26-4-5. Spudded and S.D.

Pottawatomie County

J. L. Shaw No. 1 Illinois Life, NW SE NW sec. 1-4-5. Drlg. 1,590 ft.

Seminole County

Ark Royalty Co. No. 1 Kiker, SE SE NE sec. 9-10-7. Spudded and S.D.

Feimlee & Nichaelson No. 1 Belford, SE NW NE sec. 15-9-8. Sd. 1,460-1,505 ft.; S.O.&G.; S.D. 1,680 ft.

Tom Phillips & Kinrow Drlg. Co. No. 1 Cheparney, SE SE NW sec. 7-6-7. Spdd.

Washita County

L. P. McWhirter No. 1 fee, SW cor. sec. 34-8n-19w. T.D. 1,465 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

D. Malarnee et al No. 2-A DOK ranch, SE cor. sec. 35-2s-13e. O.W.D.D.; drlg. 3,276 ft.

Phelps & Coats et al No. 1 Fidelity Life Ins. Co., SE SW NW sec. 23-1s-12. Drlg. 600 ft.

Prairie Investment Co. No. 1 A. Cobb, SW NE NW sec. 19-3s-11e. Spdd.

Riverland Oil Co. No. 1 Jones, SW SW NE sec. 4-3s-9e. Hunton 1,517 ft.; Sylvan 1,573 ft.; Viola 1,762 ft.; drlg. 2,532 ft.

Carter County

Carter Oil Co. No. 1 Carter-Williams, SW NE SW sec. 27-2s-3w. T.D. 3,165 ft.; flowed 3,300 bbls. first 24 hrs.; shut in.

Carter Oil Co. et al No. 1 Leon Voorhees, C SE SW sec. 34-5s-2w. T.D. 6,470 ft.; W.O.C.

W. E. Hammond No. 1 J. Rile, SW SE SE sec. 8-5s-1e. Drlg. 400 ft.

Texas Co. No. 1 Cathey, SE NE NE sec. 6-5s-1w. T.D. 4,191 ft.; pumping 20 bbls. daily, may deepen.

Cotton County

English Drlg. Co. No. 1 Wilson, NW NW SE sec. 7-4s-11w. T. D. 1,514 ft.; S.D.

Harmon County

Lloalko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. T.D. 2,628 ft.; fsg.

Jackson County

C. P. Burnham No. 1 Oliver, NW NW SE sec. 26-1-20w. Granite Wash 1,350 ft.; gas 500,000 ft.; drlg. 1,806 ft.

John Dickson et al No. 1 W. B. Wright, NE NW SE sec. 19-1-19w. Drlg. 2,654 ft.

A. H. Jackman No. 1 fee, SW SW SW sec. 27-1s-24w. T.D. 2,685 ft.; fsg.

Pioneer Oil Co. No. 1 N. Rawls, SW NW NE sec. 26-1-20w. T.D. 26 ft.; S.D.

J. Ben Russell No. 1 Daniel, NW NE SE sec. 13-3-20w. Machine.

Universal Oil Co. No. 1 R. W. Briscoe NW SW NE sec. 36-1s-20w. T.D. 3,004 ft.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-8s-7w. Sd. 1,525-67 ft.; T.D. 1,-202 ft.; S.D. for csg.

Pearson et al No. 1 Douthitt, NE cor. sec. 24-6s-9w. Drlg. 1,510 ft.

Johnston County

Equitable O. & G. Co. No. 1 Bellsey, NE SW sec. 12-2s-4e. Arbuckle L. 1,552 ft.; drlg. 1,938 ft. in L.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D. 7,363 ft.; P.B. 2,970 ft.; acidized; flwd. 100 B.P.H.

J. B. Russell et al No. 1 Scott, SW SE SW sec. 29-8s-2e. T.D. 4,968 ft.; taking down tools.

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 3,785 ft.; fsg.

Marshall County

Helmerich & Payne No. 1 Taliaferro, NW SE SW sec. 26-5s-5e. Drlg. 400 ft.

Pushmataha County

C. W. Whitehead et al No. 1 Misser, SE SW SW sec. 35-3s-18e. T.A.; T.D. 1,-560 ft.

Stephens County

W. G. Endicott et al No. 1 McFatridge, NW NW SW sec. 11-3s-9w. Drlg. 1,-406 ft.

T. H. McCasland No. 1 J. C. Parker, NE NE SW sec. 2-1n-6w. S.D. 2,518 ft.

Tillman County

G. Birnheim No. 1 Tate, NE NE NW sec. 16-1s-19w. Pits.

Gulf Oil Corp. et al No. 1 McWilliams, NW SW SW sec. 15-3s-17w. R.U.R.

Gulf Oil Corp. No. 1 Wearmouth, SE NW SE sec. 31-1s-18w. Drlg. 4,655 ft.

Johnson, Young & Mitchell No. 1 Donahoe, SW NW NW sec. 7-4s-17w. Drlg. 1,450 ft.

Shirley, Clum et al No. 1 Moricle, NW NW SE sec. 16-4s-14w. Drlg. 1,186 ft.

D. S. Smith No. 1-A Hammill, NE NE NW sec. 6-5s-15w. Drlg. 1,200 ft.

ARKANSAS

Arkansas County

Ark. O. & G. Co. No. 3 Fischer, 250 ft. S. 200 ft. E. NW cor. NE NW sec. 6-4w. Rig; S.D.; W.O.

Bradley County

Phillips Pet. Co. No. 1 C. H. Murphy et al, NW cor. NW NW sec. 12-17-11. R.U.

Calhoun County

Ben G. Barnett No. 1 Freeman Smith, SE cor. sec. 36-15-14. Set 10-in. 1,600 ft.; cg. 2,838 ft.; wtr. from 2,770-88 ft.

T. R. Brown et al No. 1 Calion Lbr. Co., C S½ SE SW sec. 22-15-15. R.U.

Clark County

Boris Tripanoff, Tr., No. 1 W. Gibbons, sec. 27-8-18. Prep. to set csg. 557 ft.

Columbia County

J. C. Buckbee, Tr., No. 1 Wilson, 330 ft. N and E, C sec. 17-17-18. Cg. 4,012 ft.

Crawford County

Carter Oil Co. and Donald Trumbo No. 1 Cradduck, C NW NE sec. 3-11n-30w. Prep. set csg. 1,230 ft.

Dallas County

Kel-Mac Lease & Royalty Co. No. 2 R. Owens, NW cor. NW SW sec. 26-10-16. S.D. 1,924 ft.

Hempstead County

Dixie Drlg. Co. No. 1 Wheatley, 330 ft S 30 ft. E, NW cor. SW NE sec. 14-11-26 R.U. and W.O.O.

M. D. Fitzwater No. 2 Lafferty, sec. 17-14-24. Drlg. 2,410 ft.

Murdock-May & Easton No. 1 Conway Est., 330 ft. N and E, SW cor. NW SW sec. 17-14-24. Cg. 2,170 ft.

LaFayette County

Earl F. Fox No. 2 Coleman Bros., NE NE sec. 30-16-24. S.D. 3,760 ft.

Erwin & Leach No. 3 Bodcaw Lbr. Co., 330 ft. S and E, NW cor. sec. 20-16-12. D.S. loose; moving in 3-in. drill pipe; T.D. 7,561 ft.

A. M. Neeley No. 1 Meek, 330 ft. S and W, NE cor. NE NW sec. 35-19-25. Loc.

Little River County

Roberts et al No. 1 Hall, sec. 22-13-29. O.W.D.D.; drlg. 1,965 ft.

Loanoke County

Frank F. Silver et al No. 1 Joe Chambers, C NE sec. 17-2n-7w. Drlg. 1,470 ft.

Miller County

Deep Rock Oil Corp. No. 1 Williams, NW cor. SW NW sec. 6-16-25. Set 12¾-in. 450 ft.; top Nacatoch 1,270 ft.; drlg. 1,700 ft.

Odell Hinson No. 1 Montana Realty Co., NE cor. NW NW sec. 3-17-28. Set 12½-in. csg. 238 ft.; S.D.O.

King Oil Corp. No. 1 G. W. Crank, SW NE sec. 19-26-25. T.A. 3,906 ft.

King Oil Corp. No. 1 Mann, NW cor. NW SE sec. 2-16-26. Set 10-in. 300 ft.

M. L. Luckett No. 1 Beck, sec. 34-15-26. S.D. at 2,946 ft.

L. H. Mahon et al No. 1 Miller Land & Timber Co., SW cor. SE sec. 29-18-27. S.D. 1,845 ft.

Ouachita County

Carnes & Harrell No. 1 Dunn & Robinson, new loc., 440 ft. S, 440 ft. E, NW cor. NW SE sec. 7-12-19. Set 12¾-in. csg. 180 ft.; cg. 2,035 ft.

Edgar Johnson et al No. 1 J. M. Farris, 660 ft. N and 330 ft. E, SW cor. NE sec. 26-15-15. Loc. abd.

Lion Oil Ref. Co. No. 1 Reynolds, C E½ SE NE sec. 28-15-15. 13-in. at 601 ft.

L. L. McDonald No. 1 Langley, 330 ft. N and E, SW cor. NE SW sec. 19-15-15. S.D. 2,116 ft.

Phillips Pet. Co. No. 1 Arnold, 660 ft. S and 330 ft. E, NW cor. NE sec. 27-15-15. 13-in. 628 ft.; drlg. 641 ft.

Phillips Pet. Co. No. 1 Cheatham, 660 ft. N and 330 ft. E, SW cor. NE sec. 27-15-15. R.U.

Phillips No 1 E. Gette, 660 ft. N and 330 ft. E. SW cor. NE sec. 27-15-15. Drlg. 200 ft.

Phillips Pet. Co. No. 1 L. Harriss, 660 ft. N and 330 ft. W, SE cor. SW NE sec. 28-15-15. 13-in. 616 ft.; drlg. 1,852 ft.

Phillips Pet. Co. No. 1 Murphy, C E½

NE NE sec. 28-16-15. Loc. abd.

John Pugh No. 1-A P. T. Hildebrand, 660 ft. N and 330 ft. W, SE cor. sec. 28-15-15. Drlg. 3,090 ft.

J. D. Reynolds No. 1 McKenzie, 204 ft. S. 300 ft. W, NE cor. SE SW sec. 36-15-16. Hole clean; T.D. 2,005 ft.; 12-in. at 52 ft.

Rhoda Armstrong No. 1 M. Bragg, SE cor. SE NW sec. 25-13-15. Loc.

Standard Oil Co. of La. No. 3-B Reynolds, 660 ft. N and 330 ft. W, SE cor. NW SW sec. 27-15-15. Drlg. 3,378 ft.

O. F. Whittaker, Tr., No. 1 S. Howard, 600 ft. E and 150 ft. N, SW cor. NW NE sec. 20-12-16. Drlg. 2,260 ft.

Union County

Ark. Southern Oil Co. No. 1 F. B. Laney, sec. 30-19-16. S.D. 175 ft.

Ark.-Southern Oil Co. No. 1 M. H. Simmons, NW cor. NW NE sec. 15-18-13. Drk.

J. C. Bucbee No. 1 Eszell, SW cor. NE NW sec. 13-17-15. Cg. SW sd. 4,263 ft.

J. E. Crosbie, Inc., No. 1 G. Morris, 340 ft. N and 260 ft. E, SW cor. NW SW sec. 7-17-13. Drlg. 2,900 ft.

J. E. Crosbie, Inc., No. 5 M. M. Sullivant, 393 ft. N and 341 ft. W, SE cor. SE NW sec. 12-17-14. Set 10-in. 180 ft.; comp.; pmpg. 330 B.P.D., 10% wtr.; T.D. 3,169 ft.

Kinnebrow & Simpson No. 1 L. Adams, SW cor. NE NE sec. 12-17-14. Tstd. H.F.W.; will D.D.

Marine Oil Co. No. 1 Simmons, 250 ft. S and W, NE cor. SE NW sec. 10-18-13. Drk.

McCressien Oil Co. No. 2 D. Norman, NE cor. NE SE sec. 2-18-13. W.O. jack to pump, 3,556 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

American Lib. O. Co. No. 1 Norton, 330 ft. S and 330 ft. W, NE cor. sec. 17-23-15. 16-in. 162 ft.; drlg. 2,132 ft.

W. D. Ambrose No. 1 Phillips, C Lot 7, Blk. 47, sec. 23-23-16. Loc.

Ark.-La. Gas Co. No. 13 Rodessa O. & L. Co., 2,330 ft. N and 1,136 ft. W, SE cor. sec. 22-23-16. Drlg. 4,335 ft.

Ark.-La. Gas Co. No. 15 Rodessa Oil & Land Co., NE cor. SW NW sec. 23-23-16. Comp.; 50 P.B.H.; T.D. 6,001 ft.

Ark.-La. Gas Co. No. 16 Rodessa Oil & Land Co., SE cor. NE sec. 22-23-16. Set 10-in. 3,316 ft.; T.D. 6,012 ft.; comp. 6,012 ft.; flowed 27 B.P.H., ¼-in. ck.; T.P. 450 lbs.; C.P. 700 lbs.

Ark.-La. Gas Co. No. 17 Rodessa O. & L. Co., SE cor. SW NW sec. 23-23-16. Drlg. 5,255 ft.

Ark.-La. Gas Co. No. 18 Rodessa O. & L. Co., NW cor. sec. 23-23-16. Drlg. 4,-332 ft.

Ark.-La. Gas Co. No. 19 Rodessa O. & L. Co., NE cor. NE SE sec. 22-23-16. Drlg. 1,967 ft.

Ark.-La. Gas Co. No. 20 Rodessa O. & L. Co., NW cor. SW sec. 23-23-16. Drk.

Blackwell O. & G. No. 2 Neugent, 330 ft. S and 330 ft. E NW cor. NE SE sec. 8-23-15. Set 16-in. 240 ft.

S. P. Borden No. 2 K.C.S., NW cor. SW sec. 23-23-16. Drlg. 2,973 ft.; 9-in. at 2,024 ft.

Canadian Oil Co. No. 1 Comegys, SE cor. sec. 10-23-16. Drlg. 5,486 ft.

Danciger O. & R. Co., Inc., No. 2 Nugent, sec. 23-23-16. Loc.

J. Edward Jones No. 1 Gibson, SW cor. SE SW sec. 22-23-16. Set 16-in. 250 ft.; cmtd. 7-in. 6,055 ft.; T.D. 6,065 ft.; washing with oil.

M. H. Marr et al No. 2 Peak, SW cor. SE sec. 11-23-16. Setting 6-in. at 6,001 ft.

R. W. Norton No. 3 Atkins Unit, 175 ft. S, 1,286 ft. W, NE cor. sec. 18-23-16. Drlg. 4,399 ft.

R. W. Norton No. 2 Elder, 330 ft. S and W, NE cor. sec. 23-23-16. Set 9-in. 2,052 ft.; drlg. 3,766 ft.

R. W. Norton No. 3 Foscue Unit, NE cor. sec. 29-23-16. Drlg. 4,947 ft.

R. W. Norton No. 4 Foscue Unit, SE cor. sec. 20-23-16. Drlg. 5,443 ft.

R. W. Norton No. 5-A Caddo Lv. Bd., 2,-600 ft. N and 660 ft. W, C sec. 28-23-16. Reaming crooked hole 1,590 ft.

R. W. Norton No. 6-A Caddo Lv. Bd., 2,-600 ft. N and 660 ft. W, C sec. 28-23-16. 9-in. 2,070 ft.; drlg. 3,682 ft.

R. W. Norton No. 2 N. S. Spearman, 330 ft. S and 660 ft. E, NW cor. SW sec. 18-23-15. 9-in. 2,071 ft.; drlg. 3,095 ft.

R. W. Norton No. 4 Tyson heirs, 2,943 ft. N and 3,313 ft. E, SW cor. sec. 13-23-16. T.D. 6,045 ft.; cg.

Phillips Pet. Co. No. 1 Adams, NW cor. sec. 17-23-15. Set 16-in. 252 ft.; cmtd. 7-in. 6,032 ft.; comp.; T.D. 6,055 ft.; flwd. 17 B.P.H., ⅝-in. tub. ck.

Phillips Pet. Co. No. 2 Adams, NW cor. NW NW sec. 17-23-15. T.D. 6,039 ft.; rng. 7-in.

Phillips No. 3 Adams, 815 ft. S and 1,707 ft. E NW cor. sec. 17-23-16. Loc.

Phillips Pet. Co. No. 5 Norton Est., SW cor. NW sec. 17-23-15. Set 16-in.; drlg. 4,643 ft.

Phillips No. 6 Norton Est., 1,664 ft. E and 1,794 ft. S NW cor. sec. 17-23-15. Drk.

Phillips Pet. Co. No. 1 Robinson, C E½ NE SE sec. 18-23-15. Whipstock at 2,-593 ft.; drlg. 2,762 ft.

Phillips No. 1 J. T. Smith, 330 ft. S and 330 ft. W NE cor. SW SE sec. 8-23-15. Loc.

Regent Oil Corp. No. 1 Tyson, 104 ft. S, 104 ft. E NW cor. SE SW sec. 24-23-16. R.U.

H. W. Snowden No. 1 Phillips, C Lot 11, Blk. 36, sec. 23-23-16. Drlg. 4,741 ft.

H. W. Snowden No. 2 Phillips, C Lot 1, Blk. 47, Townsite, sec. 23-23-16. Loc.

H. W. Snowden No. 3 Phillips, C Lot 7, Blk. 47, Townsite, sec. 23-23-16. Drk.

Snowden & Anding No 1 Taylor, C Lot 7, Blk. 46, Townsite, sec. 23-23-16. Drk.

Standard No. 4 Caldwell, NW cor. SW SE sec. 12-23-16. 7-in. 5,866 ft.; T.D. 6,034 ft.; flwd. 31 B.P.H., 1¾-in. tub. ck.; comp.

Standard No. 15 Lawton, SW cor. SW NW sec. 14-23-16. Set 7-in. 5,919 ft.; comp.

Standard No. 16 Lawton, NE cor. SW NW sec. 14-23-16. Set 7-in. 5,919 ft.; T.D. 5,997 ft.; flwd. 55 B.P.H., 1¾-in. tub. ck.

Standard No. 17 Lawton, 100 ft. N and 764 ft. W. SE cor. NW sec. 14-23-16. 13-in. at 262 ft.; 9-in. 2,084 ft.; drlg. 3,235 ft.

Standard No. 6 Otwell, NE cor. SE SE sec. 15-23-16. Comp.; 152 B.P.H.; 1¾-in. tbg. ch.; T.D. 6,001 ft.

Standard No. 7 Otwell, SW cor. SE SE sec. 15-23-16. Loc.

Standard No. 8 Otwell, NW cor. SE SE sec. 15-23-16. Loc.

Standard No. 4-A M. L. Pitts, 330 ft. N and W, SE sec. 11-23-16. Set 12½-in. at 265 ft.; drlg. 4,992 ft.

Standard of La. No. 1 S. G. Zylks. T.D. 5,990 ft.; flowed 581 B.P.D., 16½ per cent S.W.; ½-in. tub. ck.; recompletion.

Simplex Oil Co. No. 3 Natalie, 1,175 ft. N and 200 ft. W SE cor. W½ SE¼, sec. 10-20-15. R.U.

Tri-State O. & G. Co. No. 1 Hall, C Lot 12, Blk. 29, sec. 23-23-16. 10-in. at 2,-202 ft.; drlg. 3,590 ft.

Tri-State O. & G. Co. No. 1 F. L. Westbrook, C Lot 6, Blk. 12, sec. 23-23-16. T.D. 6,000 ft.; cg.

United No. 1-574 fee, SE cor. sec. 16-23-16. Loc.

United No. 3 Brewer Unit, 655 ft. N and 656 ft. E, SW cor. sec. 21-23-16. Comp. 5,977 ft.; flwd. 43 B.P.H., ½-in. tub. ck.; 7-in. 5,949 ft.

United No. 4 Brewer Unit, NE cor. 55 ac., sec. 29-23-16. T.D. 6,030 ft.; rng. 7-in.

United No. 6 Brewer Unit, 1,094 ft. N and 569 ft. E. SW cor. sec. 22-23-16. 13-in. at 323 ft.; drlg. 1,095 ft.

United No. 2 Harris, 326 ft. W, 330 ft. N. SE cor. SE SE sec. 15-23-16. T.D. 6,007 ft.; cmt. 7-in. 5,997 ft.; W.O.C.S.

United No. 3 Harris, NE cor. sec. 15-23-16. Drlg. 2,904 ft.; 10-in. at 2,191 ft.

United Gas Pub. Ser. Co. No. 1 McCoy, NE cor. sec. 16-23-16. 7-in. 5,893 ft.; drlg. 5,989 ft.

United No. 4 Miller, sec. 14-23-16. Drlg. 4,276 ft. (not reported before).

United No. 2 Mitchell, SW cor. of lse., sec. 20-23-16. 13-in. 314 ft.; 9-in. at 2,-153 ft.

United No. 5 M. L. Pitts, 312 ft. N and 658 ft. W, SE cor. NW SE sec. 13-23-16. 7-in. 6,007 ft.; T.D. 6,040 ft.; testing.

United No. 6 M. L. Pitts, 280 ft. S and 658 ft. W, NE cor. SW SE sec. 13-23-16. Comp. 6,040 ft.; flwd. 21 B.P.H., ¾-in. tub. ck.

United No. 7 Pitts, NE cor. SW SW sec. 13-23-16. Drlg. 5,750 ft.

United No. 8 Pitts, SW cor. of E 2½ ac., NE SW sec. 15-23-16. 16-in. 319 ft.; 10-in. 2,189 ft.; drlg. 2,380 ft.

United No. 3 N. S. Spearman, SW cor. SE NW sec. 18-23-15. Drlg. 5,920 ft.

United Gas Pub. Ser. Co. No. 3 Thomas Unit, Lots 4 and 5, Blk. 5, Townsite, sec. 23-23-16. Set 7-in. 5,995 ft.; prep. to perf. csg. 5,960 ft.; comp. 6,016 ft.; acidized; flwd. 19 B.P.H., ½-in. tub. ck.

United Gas Pub. Ser. Co. No. 5 Thomas Unit, NW cor. SE NW sec. 23-23-16. Csg. perf. 60 shots 5,991-16 ft.; comp. 6,033 ft.; flwd. 21 B.P.H., ¼-in. ck.

United No. 10 N. S. Tyson Unit, SW cor. SE SE sec. 11-23-16. Drlg. 5,927 ft.

United Gas Pub. Ser. Co. No. 20 Rodessa Oil & Land Co., SE cor. SE NE. Comp.; 48 B.P.H.; ½-in. tbg. ch.; T.D. 5,996 ft.

United Gas Pub. Ser. Co. No. 22 Rodessa Oil & Land Co., NW cor. sec. 15-23-16. Cg. 5,937 ft.

Sabine Parish—Zwolle

Ellis Prod. Co. No. 1 Williams, 330 ft S and W, NE cor. SE NE sec. 23-7-11 Tested dry; S.D.; W.O. 2,806 ft

United Gas Pub. Ser. Co. No. 2 U. S. Govt., 660 ft. S and 1,166 ft. E, NW cor. of 54 ac., sec. 29-23-16. 13-in. 315 ft.; drlg. 2,600 ft.

Grady Vaughn No. 2 Hunter-Derryberry, sec. 14-23-16. Testing.

N. LOUISIANA WILDCATS

Bienville Parish

Rondeau et al No 1 Locke, 150 ft. S and 1,495 ft. W, NE cor. sec. 9-15-10. Drk.

A. C. Walters No. 1 D. B. Davis, C SE SW sec. 3-16-9w. Drk.

Bossier Parish

Geo. H. Bringhurst et al No. 1 Buckley, NE SW sec. 36-21-13. S.D. 2,309 ft.

Producers O. & G. Co. No. 1 Webb, C W½ SW sec. 22-17-12. Set 16-in. at 90 ft.; drlg. 250 ft.

Tidwell et al No. 1 Nattin, 300 ft. S and W, C sec. 15-22-14. Set 10-in. 66 ft.; S.D. 1,650 ft.

United Gas Pub. Ser. Co. No. 1-D H. L. Skannal, 660 ft. S, 561 ft. W, NE cor. SE sec. 22-17-12. T.D. 2,892 ft.; cg. L. and sh.

Caddo Parish

Calatex O. & G. Co. No. 2 Scott, 1,038 ft. W, 807 ft. N, SE cor. sec. 5-16-16. Set 10-in. at 125 ft.; drlg. 600 ft.

Falcon Oil Co. No. 15 Deckson, NW SE sec. 27-20-15. P.B. 2,343 ft.; old T.D. 2,349 ft.

Hillman et al No. 2 Noel Est., 530 ft. S and 330 ft. W, NE cor. sec. 12-20-16. T.D. 2,165 ft.; prep. set csg.

J. B. Hutchinson No. 2 Storey-Phillips, SW cor. NE NW sec. 28-16-13. Drk.

Kenwood Pool, Ins., No. 1 W. K. Henderson, 1,980 ft. S and 200 ft. E, NW cor. sec. 15-19-15. Set 12½-in. 74 ft.; T.D. 1,900 ft., cg.

Bill Morefield et al No. 1 Stokely, 745 ft. S and 100 ft. E, C sec. 5-20-16. R.U.

Morris & Wooley No. 1 Pender, NW cor. SW sec. 11-20-15. Rng. 6-in.

Persian Oil Co. No. 1 J. E. Cupples, 500 ft. S and 350 ft. W, NE cor. sec. 24-16-13. Drk.

Press & Lambert No. 1 fee, SW cor. NE SE sec. 10-20-15. Comp.; flowed 200 bbls. per day; T.D. 2,205 ft.

Pyramid O. & G. Co. No. 1-A S. R. Wheeler, 1,320 ft. S, 1,500 ft. W, NE cor. sec. 16-18-16. P.B. and tested at 4,842 ft.; S.W.; old T.D. 5,210 ft.; W.O.

Simplex Oil Co. No. 9-A Glassell, 660 ft. N and 200 ft. W, SE cor. NE SW sec. 10-20-15. Loc.

Sport Oil Corp. No. 1-D Muslow, SE cor. sec. 5-20-15. T.D. 3,585 ft.; S.D.

Caldwell Parish

Critchett & Woods No. 1 Kyles, NE cor. SW NE sec. 18-11-3e. P.B. to 1,300 ft., old T.D. 1,740 ft.; W.O.O.

Critchett & Woods No. 2 La. Cen. Lbr. Co., NW cor. NW SE sec. 18-11-3e. T.D. 1,395 ft.; S.D.

Catahoula Parish

J. Ray McDermott No. 1 La. Cen. Lbr. Co., 400 ft. S and E, NW cor. sec. 15-10-5e. Drk.

Claiborne Parish

E. T. Oakes No. 1 H. W. Patton, NE cor. sec. 1-20-5. Jkd. old hole 4,242 ft.; skd. rig; set 10¾-in. 1,400 ft.; drlg. 3,805 ft.

United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E, SW cor. sec. 31-20-5. Drlg. hd. sd. 7,334 ft.

Concordia Parish

Zeni Oil Co. No. 1 Young, 1,200 ft. W, 100 ft. N, SE cor. sec. 28-6n-8e. S.D. 1,120 ft.

De Soto Parish

J. E. Carlson No. 1 A. P. Garland, 250 ft. S and E, NW cor. SW sec. 7-14-14. Drk.

J. G. Carson No. 1 C. J. McMichael, sec. 26-13-15. Drk.

A. G. Halbach et al No. 1 Staton, 150 ft. N and E. SW cor. SE sec. 29-13-14. D.&A. 4,003 ft.

W. F. Hyde et al No. 1 Ramsey, 330 ft. N and W of C sec. 36-11-11. O.W.D.D.; drlg. 65 ft.

R. C. Payne No. 1 Harris, sec. 11-13-14. S.D. wtg. on D.S. test.

E. A. Stiller No. 1 Jenkins, 400 ft. S and 200 ft. W. NE cor. NW NE sec. 35-13-12. Set 5 3/16-in. 2,459 ft.; T.D. 2,469 ft.

Tarbud Oil Co. No. 1 Caddo Realty Co., SW cor. sec. 2-13-16. T.D. 3,174 ft.; hd. L. Abd.

Franklin Parish

S. C. Jensen No. 1 Bailey, 660 ft. N and W, C sec. 12-11-6e. S.D. 1,430 ft.

Grant Parish

Acadian Prod. Corp. No. 8 Swope, 150 ft. S and E, NW cor SE SE sec. 18-9-1e. Drlg. 795 ft.

Alexander et al No. 1 Maxwell, sec. 9-9-1e. W.O.S.R. 1,538 ft.

W. B. Rhineck, Tr., No. 1 Swope, SW cor. NW SW sec. 16-9-1e. Cmtd. 6-in. 1,577 ft.; T.D. 1,580 ft.; W.O.C.

Taw Oil Co. No. 2 Bradford, sec. 16-9-1e. Test dry 1,558 ft.; D.D.

Taw Oil Co. No. 1 Bradford, NE cor. NW sec. 16-9-1e. Set 10-in. 60 ft.; S.D.

Tri-State Lsg. & Dev. Co. No. 1 Ethridge, 600 ft. S and 300 ft. W, NE cor. sec. 19-7-3w. R.U.

Jackson Parish

G. W. Zeigen No. 5 La. Cen. Lbr. Co., sec. 13-14-2w. T.D. 1,770 ft.; O.W.D.D.; prep. to D.D.

La Salle Parish

Montague Oil Co. No. 7-A Zenonia Lbr. Co., NE cor. sec. 10-9-1e. Tstd. S.W. and W.O. 1,520 ft.

Lincoln Parish

Caldwell Land & Timber Co. No. 1 J. K. Hammons, 330 ft. S and E, NW cor. SE SW sec. 30-18-1w. S.D. 665 ft.

Herman L. Brown et al No. 1 S. Gardner, 230 ft. N. 330 ft. E. SW cor. NW NE sec. 10-17-4w. Cg. 6,159 ft.

Morehouse Parish

J. B. Collins et al No. 1 E. M. Clarke, SE NE sec. 10-20-7e. Drk.

John E. Farrell No. 18 State, 198 ft. S and 1,752 ft. E, NW cor. sec. 9-21-4e. Comp.; 5,000,000 ft. gas; 890 lbs. R.P.; T.D. 2,135 ft.

John E. Farrell No. 19 State, 2,009 ft. N and 2,016 ft. E, SW cor. sec. 4-21-4e. Comp.; 2,500,000 ft. gas; 940 lbs. R.P.; T.D. 2,135 ft.

John E. Farrell No. 21 State, 1,507 ft. N and 2,121 ft. E, SW cor. sec. 33-22-4e. Drlg. 100 ft.

John E. Farrell No. 22 State, 1,646 ft. S and 346 ft. E, NW cor. sec. 33-22-4e. Drk.

John E. Farrell No. 23 State, 1,341 ft. N and 3,547 ft. E, NW cor. sec. 29-22-4e. Drk.

John E. Farrell No. 24 State, 1,493 ft. S and 2,453 ft. E, NW cor. sec. 29-22-4e. Drk.

J. E. Farrell No. 24 State, sec. 29-22-4e. Loc.

United Gas Pub. Ser. Co. No. 24 Tensas, 1,330 ft. W and 664 ft. N, SE cor. sec. 3-21-4e. 10-in. at 155 ft.; drlg. 1,602 ft.

United Gas Pub. Ser. Co. No. 25 Tensas, 1,418 ft. W and 1,242 ft. S, NE cor. sec. 29-22-4e. Drk.

United No. 17 Tensas, 1,320 ft. N and 1,-317 ft. W, SE cor. sec. 26-22-4e. Drk.

United No. 18 Tensas, 1,320 ft. S and 1,317 ft. W NE cor. sec. 35-22-4e. Drk.

United No. 22 Tensas, 340 ft. W and 1,-002 ft. N, SE cor. sec. 4-21-4e. Comp. 7,000,000 gas. Rk. pr. 915 lbs. T.D. 2,175 ft.

United No. 23 Tensas, 2,559 ft. W and 1,-389 ft. S, NE cor. sec. 20-22-4e. Cmt. 7-in. 1,904 ft.

United Gas Pub. Ser. Co. No. 26 Tensas, 1,994 ft. W and 1,101 ft. N, SE cor. sec. 4-21-4e. 10-in. at 151 ft.; 6-in. 2,087 ft.

United No. 27 Tensas, 1,288 ft. N and 660 ft. W SE cor. sec. 4-21-3e. Drk.

United No. 28 Tensas, 1,985 ft. W fr. SE cor. NE sec. 3-21-4e. Loc.

Red River Parish

I. J. Allen No. 1 Franklin Realty Co., sec. 20-11-9. Set 12½-in. 110 ft.; T.D. 3,190 ft.; abd.

Byrd Explo. Co. No. 1 Edge, NE¼, SE¼, sec. 29-13-11. Test 2,479 ft.; dry; T.D. 2,499 ft.; W.O.S.R.

Byrd Explo. Co. No. 1 Waller, 1,570 ft. N and 1,520 ft. W, SE cor. sec. 20-13-11. Recmtd. 8-in.; T.D. 860 ft.

W. J. Hunter et al No. 1 Long Bell Lbr. Co., NE NE sec. 19-13-9. T.D. 1,900 ft.; sd. 1,860-76 ft.; tstg.

T. G. Shaw No. 1 Teekell, SE cor. SE SW sec. 34-13-10. Drlg. 2,610 ft.

Richland Parish

J. S. Morrisey No. 1 Jones, 1,293 ft. N. 636 ft. E. SW cor. sec. 15-18-7e. Drlg. 1,822 ft.

Arthur Wray No. 1 Slocum, 2,436 ft. S. 560 ft. W, NE cor. sec. 10-17-6e. Cg. hd. sh. 2,450 ft.

Sabine Parish

I. J. Allen No. 1 Paul, sec. 24-9-14. R.U.

Circle W. Oil Co. No. 1 Cassell, 660 ft. E and 418 ft. S. C sec. 30-9-13. T.D. 1,778 ft.; acidized; W.O.S.R.

M. C. Forsman No. 1 Patrick, NE SW sec. 21-9-13. Set 8-in. 75 ft.; drlg. 1,300 ft.

F. G. Cox No. 1 Whitney Corp., C NW NE sec. 8-9-13. T.D. 3,234 ft.; 9-in. at 3,230 ft.

W. E. Hall No. 1 Aaron, sec. 32-9-13. T.D. 2,089 ft.; D.&A.

Pearl Oil Co. No. 6 Crawford, C SE SE sec. 20-9-13. Drlg. 3,096 ft.

J. R. Keen No. 1 Long Bell, 276 ft. N and 288 ft. W, SE cor. NE SW sec. 4-22-36. Drlg. 1,335 ft.

O. S. McKnelly No. 3 Henderson, sec. 29-9-13. Drk.

A. C. Scott No. 1 Bowman Hicks, 660 ft. S and 330 ft. E, NW cor. NW SW sec. 23-9-13. T.D. 1,607 ft; cmtd. 7-in. 1,595 ft.

Claude H. Smith No. 1 Whitney Corp., 330 ft. S, 990 ft. W, NE cor. sec. 19-10-13. Set 7-in. 1,514 ft.; cg. 3,115 ft.

A. H. Tarver No. 2 Baker, NW cor. NE sec. 36-8-12. D.S stuck 5,200 ft.

Lee Whitehurst No. 2 Latham, sec. 19-9-13. Set 7-in. 1,593 ft.; acid trtd. 3,138 ft.; comp.; pumping 50 B.P.D.

Tensas Parish

H. M. Jones et al No. 1 Chicago Mill & Lbr. Co., NE cor. sec. 30-12-10e. T.D. 780 ft.; cmtd. 8-in. 766 ft.

Union Parish

Boucher & Pace No. 1 Frost-Johnson, NW NE sec. 27-21-1e. Top Travis Peak 3,-880 ft.; cg. 4,508 ft.; sd. 4,461-91 ft.

Carbon Cons. No. 1 So. Carbon Co., 883 ft. S. 770 ft. E, NW cor. sec. 11-21-3e. 10-in. at 198 ft.

John E. Farrell No. 20 State, 988 ft. S and 4,261 ft. E, NW cor. sec. 4-21-4e. R.U.

Innerstate Natural Gas Co. No. 47 fee, 2,075 ft. S, 660 ft. W, NE cor. sec. 22-20-3e. R.U.

Southern Carbon Co. No. 9 Grayling, 1,-260 ft. N and 1,954 ft. W, SE cor. sec. 8-21-4e. Cmtd. 6-in. at 2,060 ft.

Southern Carbon Co. No. 10 Grayling, 1,-261 ft. N and 660 ft. E, SW cor. sec. 9-21-4e. Drk.

United Carbon Co. No. 4 Stovall, 1,698 ft. E and 2,201 ft. N, SW cor. sec. 33-21-4e. Set 10-in. 182 ft.

Vernon Parish

Llano Del Rio Co. No. 2 Gulf Lbr. Co., 1,-285 ft. S, 1,000 ft. W, NE cor. sec. 1 1n-3w. S.D. 3,240 ft.

Webster Parish

J. H. Edwards No. 1 Hooper, 330 ft. S and E. NW cor. SW sec. 8-17-9. T.A. 3,016 ft.; S.D.

J. P. Evans et al No. 1 T. Crichton, NE SE sec. 35-18-9. T.D. 5,589 ft.; gas 80,-000,000 to 100,000,000 ft.; distillate 10 B.P.D.; tstg.

Ohio Oil Co. No. 1 R. L. Holloway, 660 ft. S, 760 ft. W, C sec. 23-21-10. Drlg. 7,920 ft.

SOUTH LOUISIANA FIELDS

Bayou Mallet—Acadia Parish

Superior O. & G. Co. No. 3 George Bradley, sec. 52-7s-1e. T.D. 6,395 ft.; 7-in. csg. at 6,388 ft.; I.P. 130 B.P.D. through 7/64-in. ck.; T.P. 600 lbs.; C.P. 750 lbs.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 32 Watkins, sec. 7-12s-12w. Drlg. sh. 2,639 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 26 State. T.D. 6,117 ft.; P.B. 2,508 ft.; to sdtk.
Texas Co. No. 42 State, sec. 47-23s-20e. T.D. 3,926 ft.; P.B. 3,100 ft.; W.O.C.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 13 School Land, sec. 16-14s-13w. Drlg. sh. 5,759 ft.

Burton Sutton No. 14 School Land, sec. 16-14s-13w. Drk.

Burton-Sutton No. 3-A School Land, sec. 16-14s-13w. T.D. 3,951 ft.; P.B. and sdtkd. at 3,808 ft.

Humble-Magnolia No. 17 Cameron Meadows, sec. 21-14s-13w. Drk.

Chenevville—Rapides Parish

Texas Co. No. 1 Weihl, sec. [illegible]-1s-2e. T.D. 5,677 ft.; top oil sd. 5,658 ft.; prep. to make D.S.T.

Choctaw Dome—Iberville Parish

Standard Oil Co. No. 8 Myrtle Grove Wilburt, sec. 52-9s-11e. T.D. 5,828 ft.; P P to 2,450 ft. and sdtkd.; drlg. L. 4,800 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 12 Community sec. 30-10s-2e. T.D. 5,836 ft.; 7-in. csg. 5,806 ft.; I.P. 197 bbls. in 12 hrs., ¼-in. ck.; T.P. 625 lbs.; C.P. 1,175 lbs.

Fausse Point—Iberia Parish

Texas Co. No. 2 State, sec. 35-11s-8e. T.D. 1,261 ft.; 12½-in. csg. on bottom; W.O.C.

Dog Lake—Terrebonne Parish

Texas Co. No. 3 State, sec. 5-22s-16e. T.D. 7,613 ft.; P.B. and sdtkd. at 5,010 ft.; drlg. sh. and L. 5,456 ft.

Garden Island—Plaquemines

Texas Co. No. 19 Garden Isle, sec. 37-23s-33e. Cg. sh. 4,594 ft.

Gillis—Calcasieu Parish

R. Dobbs et al No. 1 Buhler, sec. 11-9s-8w. Drlg. sh. 3,410 ft.

Fohs Oil Co. No. 2 Ida Powers, sec. 14-9s-8w. T.D. 7,066 ft.; set 7-in. csg. on bottom; I.P. 550 B.P.D. through ¼-in. choke.

Fohs Oil Co. No. 11 O. H. Castle, sec. 13-9s-8w. Drlg. 7,068 ft., T.D.

Texas Co. No. 9 Nickerson fee, sec. 13-9s-8w. T.D. 6,752 ft.; cut sd.

Texas Co. No. 10 Nickerson fee, sec. 12-9s-8w. Drk.

Union Sulphur Co. No. 1 J. A. Bel estate. T.D. 7,683 ft.; P.B. to 6,522 ft.; sdtkd. and drlg. wtr. sd. 7,058 ft.

Union Sulphur Co. No. 1 G. S. Cole, sec. 12-9s-8w. T.D. 5,287 ft.; prep. to test.

Union Sulphur Co. No. 1 Green Acres sec. 11-9s-8w. T.D. 7,659 ft.; P.B. to 4,450 ft.; drlg. sh. 5,610 ft.

Union Sulphur Co. No. 8 Powell Lbr. Co. T.D. 6,730 ft.; 7-in. csg. 6,708 ft.

Union Sulphur Co. No. 15 State, sec. 12-9s-8w. Drk.

Union Sulphur Co. No. 16 State, sec. 11-9s-8w. T.D. 6,754 ft.; 7-in. csg. 6,750 ft.; W.O.C.

Hackberry—Cameron Parish

Gulf Ref. Co. No. 20 Irwin, sec. 12-12s-10w. Abd. 6,986 ft.

Stanolind O. & G. Co. No. 16-A School Land, sec. 16-12s-12w. Drlg. sd. 5,045 ft.

Stanolind O. & G. Co. No. 21-B Gulf Land, sec. 14-12s-10w. T.D. 6,151 ft.; 7-in. csg. 6,121 ft.; I.P. 113 bbls. in 9 hrs., ¼-in. ck.; T.P. 665 lbs.

Stanolind O. & G. Co. No. 23-B Gulf Land, sec. 14-12s-10w. Rig up.

Texas Co. No. 31 State, sec. 12-12s-10w. Drk.

Texas Co. No. 19-B State, sec. 13-12s-9w T.D. 6,724 ft.; P.B. to 4,638 ft.; sdtkd. drld. to 5,307 ft.; P.B. and sdtkd. 4,928 ft.; drlg. sh. 5,070 ft.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 2 Banta, sec. 40-13s-9e. Drlg. sh. 8,425 ft.

Herton Oil Co. No. 4 Banta, sec. 40-13s-9e. Drlg. sh. 6,125 ft.

Herton Oil Co. No. 1 Carter, sec. 38-13s-9e. T.D. 9,602 ft.; P.B. to sdtrk.

Jennings—Acadia Parish

Shell Pet. Corp. No. 1 Conover, sec. 40-9s-2w. T.D. 7,450 ft.; prep. to drill ahead.

Stanolind O. & G. Co. No. 18 Houssiere-Latrielle, sec. 47-9s-2w. T.D. 7,052 ft.; fsg.

Lafitte—Jefferson Parish

Texas Co. No. 4 Lafitte, sec. 20-17s-24e. T.D. 9,213 ft.; fsg.

Texas Co. No. 4 Rigolettes Fur Co., sec. 29-17s-24e. T.D. 8,722 ft.; fsg.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State. Drlg. sd. and sh. 6,380 ft.

Texas Co. No. 40 State, sec. 36-21s-19e. Drlg. Anhydrite 3,477 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 5 LaFourche Basin Levee Bd., sec. 11-18s-25e. Drlg. wtr. sd. 4,808 ft.

Leesville—LaFourche Parish

Delta Oil Co. No. 1 Constantine, sec. 34-21s-22e. T.D. 5,043 ft.; 7-in. csg. at 5,009 ft.; S.D.

Gulf Oil Corp. No. 10 Allen Land, sec. 21-21s-22e. T.D. 2,725 ft.; I.P. 432 B.P.D.

Lincoln Oil Co. No. 2 Constentine, sec. 27-21s-22e. T.D. 5,133 ft.; salt; P.B. 3,728 ft.; sdtkd.; cg. sd. 4,648 ft.

Texas Co. No. 47 Leesville, sec. 27-21s-22e. Top salt 4,978 ft.; abd. at 5,246 ft.

Texas Co. No. 48 Leesville, sec. 27-21s-22e. Drk.

Texas Co. No. 49 Leesville, sec. 22-21s-22e. Cg. sd. and sh.; show oil at 3,727 ft.

New Iberia—Iberia Parish

Canal Oil Co. No. 3 Sabatier, sec. 54-1s-7e. S.D. 3,180 ft.; in salt.

Kitos Oil Co. No. 2-A Sealey, sec. 56-12s-7e. T.D. 4,560 ft.; P.B. to 2,200 ft.; S.D.

Teche Oil Co. No. 1 Schwing, sec. 52-12s-7e. P.B. and sdtkd.; drlg. sh. 2,398 ft.

Texas Co. No. 1 Smith, sec. 72-12s-7e. T.D. 6,700 ft.; I.P. 22 B.P.H., ¼-in. ck.; T.P. 900 lbs.; C.P. 1,250 lbs.

Roanoke—Jefferson Davis Parish

Gulf Oil Corp. No. 2-B Anding, sec. 2-9s-4w. Drlg. sh. 8,347 ft.

Humble O. & R. Co. No. 4-B Devilbiss, sec. 11-9s-4w. S.D. 4,954 ft.

Shell Pet. Corp. No. 3 Carter, sec. 1-9s-4w. T.D. 2,527 ft.; W.O.C.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 2 Colmier, sec. 4-6s-5e. T.D. 4,985 ft.; reaming.

Texas Co. No. 1 Futral, sec. 20-6s-5e. T.D. 5,997 ft.; D.S. stuck.

Texas Co. No. 1 Lahaye, sec. 4-6s-5e. T.D. 4,455 ft.; P.B. 3,870 ft.; ReP.B. to 3,761 ft.; sdtkd. at 3,915 ft.; fsg.

St. Martinville—St. Martin Parish

Continental Oil Co. No. 1 fee, sec. 18-11s-6e. T.D. 8,150 ft.; set cmt. plug at 7,695 ft.; W.O.C.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-4e. Derrick.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 825 fee, sec. 29-9s-10w. Drlg. rock 3,523 ft.

Union Sulphur Co. No. 828 fee, sec. 20-9s-10w. T.D. 3,358 ft.; 7-in. csg. at 3,334 ft.; I.P. 730 B.P.D.

Union Sulphur Co. No. 830 fee, sec. 29-9s-10w. Drk.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 Doris Fruge, sec. 28-7s-2w. R.U.

Continental Oil Co. No. 3 Homeseekers, sec. 29-7s-2w. T.D. 8,320 ft.; 5¾-in. csg. on bottom.

Continental Oil Co. No. 4 Homeseekers, sec. 39-7s-2w. Drlg. sd. and sh. 6,864 ft.

Continental Oil Co. No. 2 Ortego, sec. 28-7s-2w. Drlg. sh. 8,312 ft.; cut sd.

Continental Oil Co. No. 2 L. L. Welch, sec. 28-7s-2w. T.D. 8,316 ft.; 5¾-in. csg. cmtd. on bottom.

General Crude Oil Co. No. 1 Vincent, sec. 31-7s-2w. Abd. 9,144 ft.

Vinton—Calcasieu Parish

Vinton Pet. Co. No. 1 fee, sec. 34-10s-12w. Cg. sd. 3,432 ft.

White Castle—Iberville Parish

Shell Pet. Corp. No. 3 Shingle, 650 ft. S. 600 ft. E of NW cor. sec. 12-11s-12e. T.D. 5,763 ft.; P.B. 3,800 ft.; sidetracked; drlg. sh. 4,910 ft.

S. LOUISIANA WILDCATS

Acadia Parish

Magnolia Pet. Co. No. 1 Homeseekers Dev. Co., sec. 54-10s-1w. Drlg. sd. 8,768 ft.

Allen Parish

Humble O. & R. Co. No. 2 Bell est., 933 ft. N and E of sec. 28-6s-7w. Drlg. sd. 88 ft.

Calcasieu Parish

Buhler Oil Co. No. 2 Faiszt, sec. 26-8s-10w. Old T.D. 4,412 ft.; P.B. to 2,000 ft.; sdtkd.; drlg. sh. 3,023 ft.

Cameron Parish

Magnolia Pet. Co. No. 1 Hebert, sec. 13-12s-9w. Drlg. sh. and L. 8,221 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 40-8s-2e. R.U.

Iberia Parish

Jefferson Lake Oil Co. No. 1 State, Twp. 12s-5e. T.D. 8,610 ft.; P.B. to 8,483 ft.; perf. from 8,460-66 ft.; P.B. to 8,183 ft.

Jefferson Lake Oil Co. No. 322 State Lake Pleigneur. S.D. 5,690 ft.

Texas Co. No. 1-B State, sec. 20-15s-6e. R.U.

Jefferson Davis Parish

Shell Pet. Corp. No. 1 Lacassan, sec. 20-11s-5w. T.D. 9,344 ft.; D.S. stuck.

Stanolind O. & G. Co. No. 1 C. E. Britt, sec. 15-10s-3w. Drlg. 100 ft.

Strake Oil Corp. No. 1 Onezia Miller Est., sec. 7-9s-5w Drlg. sh. 5,055 ft.

St. Bernard Parish

John Cartwright No. 1 Meraux Nunez, sec. 19-13s-12e. Drlg. sd. and sh. 1,500 ft.

St. James Parish

Shell Pet. Corp. No. 1 Colonial Sugar, sec. 5-12s-5e. T.D. 7,522 ft.; top salt 7,492 ft.; S.D.

St. Landry Parish

Limited Oil Co. No. 1 Miller Est., sec. 47-8s-4e. Abd. 9,005 ft.

St. Martin Parish

Texas Co. No. 2 State, sec. 14-10s-9e. Drlg. sh. and L. 5,682 ft.

Texas Co. No. 8 St. Martins Land, sec. 17 8s-7e. T.D. 8,213 ft.; D.S. stuck; shot off at 5,050 ft.; hole cleaned to 7,607 ft. and prep. to sdtk.

Terrebonne Parish

J. B. Beck et al No. 1 Realty Operators, sec. 103-17s-17e. Spudded 28 ft.

Humble O. & R. Co. No. 1 Continental Land & Fur Co., sec. 30-17s-14e. T.D. 2,526 ft.; P.B. to 1,050 ft. to straighten hole.

Vermillion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. Drlg. sd. 8,904 ft.

Del-Shell Exploration Co. No. 1 Landry heirs, sec. 1-13s-4e. Drlg. sh. 1,320 ft.

Louisiana Land & Expl. Co. No. 1 La. Fur Co., sec. 16-15-1e. Drk.

TEXAS

Week Ending June 6

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 8 McCasland, Wm. Smithson Sur. T.D. 4,110 ft.; 7-in. csg. at 4,057 ft.; W.O.C.

Hastings—Brazoria County

Stanolind O. & G. Co. No. 5 Drake, H.T.&B. Sur. No. 36. Rng. 16-in. csg. at 115 ft.

Humble O & R. Co. No. 3 Nelson, H.T.&B. Sur. T.D. 6,050 ft.; 7-in. csg. at 5,940 ft.; W.O.C.

Stanolind O. & G. Co. No. 1 Brown, H.T. &B. Sur. T.D. 5,991 ft.; rng. screen and tstg.

Stanolind O. & G. Co. No. 3 Ford, A.C.H.& B. Sur. No. 1. Drlg. sdy. sh. and shells 1,193 ft.

Stanolind O. & G. Co. No. 1 Rosmussen & Moore, Moore and Rosmussen Sur. 16-in. csg. at 106 ft.; W.O.C.

Stanolind O. & G. Co. No. 6 Shaw, H.T.&B. Sur. No. 36. R.U.

Stanolind O. & G. Co. No. 6 Turner, A.C. H.&B. Sur. No. 1. T.D. 4,142 ft.; fsg.

Stanolind O. & G. Co. No. 5 H. G. Williams, A.C.H.&B. Sur. Drlg. sh. 3,280 ft.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1 Armstrong Plantation fee, Polly and Chance Sur. Drlg. sh. 4,238 ft.

Manvel—Brazoria County

Texas Co No. 23-B Belcher, H. N. Little. Sur. Drlg. sh. 5,396 ft.

Texas Co. No. 24-B Belcher, H. M. Little Sur. Drk.

Texas Co. No. 22 Houston Oil Field Assn., A.C.H.&B. Sur. No. 1. T.D. 2,302 ft.; P.B. 1,880 ft.; sdtrkd. at 1,926 ft.; drlg. L. 2,924 ft.

Texas Co. No. 2 Smith, H.T.&B. Sur. T.D. 4,060 ft.; 7-in. csg. on bottom; brought in as gas well; killed to deepen.

Stratton Ridge—Brazoria County

Warner Oil Co. No. 3 Dannenbaum, J. D. Grace Sur. S.D. at 1,280 ft.

West Columbia—Brazoria

Texas Co. No. 13 Abrams, George Tennille Sur. Drlg. sd. and L. rock 2,493 ft.

Heyser—Calhoun County

Humble O. & R. Co. No. 2 Welder, Jose Maria Rios Sur. R.U.

Anahuac—Chambers County

Humble O. & R. Co. No. 5 Broussard & Hebert, H.&T.C. Sur. T.D. 7,150 ft.; P.B to 6,799 ft.; sdtkd. at 6,786 ft.; drilled to 6,978 ft.; 7-in. csg. at 6,953 ft.; completing.

Humble O. & R. Co. No. 13 Clark, H.&T.C. Sur. T.D. 7,100 ft.; 7-in. csg. at 7,084 ft.; I.P. 24 B.P.H., ¼-in. ck.; T.P. 880 lbs.

Humble O. & R. Co. No. 17 Middleton, H. T.&C. Sur. Drlg. sh. 6,960 ft.

Humble O. & R. Co. No. 18 Middleton, H. T.&C. Sur. Cg. sh. 7,254 ft.

Humble O. & R. Co. No. 8 Tyrell, H.T.& C. Sur. Drlg. sh. and L. 6,090 ft.

Humble O. & R. Co. No. 11 White, James McGahey Sur. 10¾-in. csg. at 1,543 ft.; drlg. sh. at 3,287 ft.

Humble O. & R. Co. No. 1-B White, James McGahey Sur. 10¾-in. csg. at 1,544 ft.; drlg. sh. 2,900 ft.

Sun Oil Co. No. 15 White J. McGahey Sur. Drlg. sh. and L. 6,314 ft.

Sun Oil Co. No. 17 White, James McGahey Sur. Drk.

Sun Oil Co. No. 18 White, J. McGahey Sur. T.D. 7,088 ft.; 7-in. csg. at 7,040 ft.

Barbers Hill—Chambers County

Stanolind O. & G. Co.'s No. 29 Chambers Wm. Bloodgood Sur. Derrick.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 2 State. T.D. 6,617 ft.; 7-in. csg. at 6,608 ft.; flowed 8 B.P.H., 40 per cent S.W., ⅝-in. ck.; went dead; pulling tubing to install flow valves.

Big Creek—Fort Bend County

Gulf Oil Corp. No. 69 Davis, B. Young League. Drlg. sh. 3,646 ft.

Blue Ridge—Fort Bend County

Alamo Drlg. Co. No. 1 Blakely, E. Drew Sur. T.D. 4,098 ft.; 7-in. csg. at 4,069 ft.; I.P. 380 B.P.D., ¼-in. ck.; T.P. 380 lbs.; C.P. 1,300 lbs.

Ben Barnett No. 2 Blakely, E. Drew Sur. T.D. 2,166 ft.; R.U. to pump.

H. G. Frost et al No. 1 Robinson, H. Shropshire Sur. T.D. 3,666 ft.; P.B. to 2,900 ft.; W.O.C.

Trans-State Oil Co. No. 4-B Blakely, E. Drew Sur. Drlg. sd. and sh. 4,324 ft.

Orchard—Fort Bend County

Gulf Oil Corp. No. 46 Moore, Leo Burknapp Sur. Drlg. sh. 2,278 ft.

Gulf Oil Corp. No. 5-A Moore, S.D. 1,562 ft.

Thompson—Fort Bend County

Naylor et al No. 8 Gehr, S. Kennedy Sur. S.D. 4,431 ft.

Sterling O. & R. Co. No. 1 F. I. Booth, H. Chrisman Sur. T.D. 5,407 ft.; 7-in. csg. at 5,320 ft.; swbd.; would not flow; R.U. to pump.

High Island—Galveston County

Stanolind O. & G. Co. No. 5 B.&N.O., Fitzsimmons Sur. T.D. 6,477 ft.; P.B. 5,795 ft.; 7-in. csg. at 5,755 ft.; P.B. to 5,785 ft.; perf. 5,760-80 ft.; flowed 590 bbls. fluid, 50 per cent S.W.; P.B. 5,530 ft.; drld. to 5,765 ft.; I.P. 112 B.P.D., 5/16-in. ck.

Stanolind O. & G. Co. No. 56 Cade. N. Fitzsimmons Sur. Drlg. sh. and L. 5,672 ft.

Stanolind O. & G. Co. No. 1 Cooper, M. Dunman Sur. Drlg. sh. 4,770 ft.

Stanolind Oil & Gas Co. No. 18-B Smith Royalty, M. Dunman Sur. T.D. 5,529 ft.; P.B. 3,650 ft.; sdtkd. at 4,022 ft.; drld. to 4,977 ft.; cg.

Dickinson—Galveston County

Humble O. & R. Co. No. 3 Magale, J. S. Jones Sur. Drlg. sh. 6,890 ft.

Humble O. & R. Co. No. 8-A Stewart, J. Sellers Sur. 10¾-in. csg. at 2,024 ft.; drlg. sh. 5,555 ft.

Humble O. & R. Co. No. 3-B Bayou Dev. Co., J. Sellers Sur. Drlg. sh. 7,970 ft.

Ken Ben Oil Co. No. 1 Stewart, W. F. Wilson Sur. T.D. 8,669 ft.; reaming to run 7-in. csg.

Stanolind O. & G. Co. No. 4 State, Tr. No. 3. Drlg. sh. 7,850 ft.

Stanolind O. & G. Co. No. 5 State, Tract 5 Drlg. sh. 8,947 ft.

Batson—Hardin County

Nimrod Prod. Co. No. 1 Butler, W. Donoho Sur. S.D. 3,605 ft.

Saratoga—Hardin County

John Deering No. 1 Teel, Thomas Gaines Sur. Abd. 5,909 ft.

Mykawa—Harris County

West Prod. Co. No. 9 Irwin, W. B. Walker Sur. T.D. 5,140 ft.; to P.B.

West Prod. Co. No. 1 Minnetex Wm. Lovett Sur. Drlg. sdy. sh. 5,269 ft.

Pierce Junction—Harris County

Rio Bravo Oil Co. No. 14-B Settegast, J. Kappman Sur. Drlg. sh. and shells 4,195 ft.

Gulf Oil Corp. No. 4 Manchester. Drlg. sh. 2,346 ft.

South Houston—Harris County

Smith & McDannald No. 1 Merridith, H. T.&B. Sur. No. 6. S.D. 1,020 ft.

Stanolind O. & G. Co. No. 1 Minnie Barrett, H.T.&B. Sur. No. 6. Drk.

Stanolind O. & G. Co. No. 1 M. Butz, H.T.&B. Sur. No. 6. Drlg. sh. 3,099 ft.

Stanolind O. & G. Co. No. 1 Funk, Callahan & Vince Sur. T.D. 5,014 ft.; P.B. to 4,534 ft.; failed to flow; swbd. 80 bbls. in 12 hrs.; pulling tubing to run flow valve.

Stanolind O. & G. Co. No. 4 Howard, H. T.&B. Sur. No. 6. Drk.

Stanolind O. & G. Co. District No. 23, H. T.&B. Sur. No. 5. T.D 4,775 ft.; I.P. 471 B.P.D., ¼-in. ck.; T.P. 560 lbs.; C.P. 600 lbs.

Stanolind O. & G. Co. District 24, H.T.&B. Sur. No. 5. Drlg. sdy. sh. 1,567 ft.

Stanolind O. & G. Co. No. 3 First Natl. Bank, Callahan-Vince Sur. Drlg. sh. and L. 3,580 ft.

Stanolind O. & G. Co. No. 2 Schwartz, H. T.&B. Sur. T.D. 3,708 ft.; P.B. to 1,958 ft.; prep. to sdtk.

Stanolind O. & G. Co. No. 1 C. J. Wyndelts, H.T.&B. Sur. No. 6. Drlg. sh. 3,300 ft.

Tomball—Harris County

Amerada-Stanolind No. 2 Felber, E. Smith Sur. Drlg. sh. 5,141 ft.

Humble O. & R. Co. No. 5 Holderrieth, C. N. Pillot Sur. T.D. 5,559 ft.; I.P. 24 B.P.H., ¼-in. ck.; T.P. 800 lbs.; C.P. 825 lbs.

Humble O. & R. Co. No. 1-B Juergens, J. House Sur. R.U.

Humble O. & R. Co. No. 4 Milo, C. N. Pillot Sur. Drlg. sh. 1,001 ft

Humble O. & R. Co. No. 4 Moody, J. Edwards Sur. T.D. 5,586 ft.; 7-in. csg. 5,574 ft.

Humble O. & R. Co. No. 1-B Tolliman, J House Sur. T.D. 5,582 ft.; 7-in. csg. at 5,566 ft.; I.P. 42 bbls. in 8½ hrs., ¼-in. ck.; T.P. 960 lbs.; C.P. 1,100 lbs.

Texas Co. No. 2 Sam Lewis, C. N. Pillot Sur. Cg. sd. showing oil at 5,566 ft.

Amelia—Jefferson County

H. J. De Arman No. 1 First National Bank, F. Bergner Sur. 1-A. Drlg. sh. 2,730 ft.

Humble O. & R. Co. No. 2 Guinn, C. Williams Sur. T.D. 6,773 ft.; setg. 7-in. csg.; flowed 356 B.P.D., ¼-in. ck.; killed well due to high gas-oil ratio.

Humble O. & R. Co. No. 1 Pinchback & Williams Sur. T.D. 6,772 ft.; I.P. 30 B. B.H., ¼-in. ck.; T.P. 1,025 lbs.; C.P. 1,025 lbs.

Glenn H. McCarthy, Inc., No. 1 Langham, H. Williams Sur. Drlg. sh. 3,900 ft.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 3-A Pipkin and Davis, Wm. McFaddin Sur. T.D. 6,500 ft.; D.S. stuck.

Fannett—Jefferson County

Gulf Oil Corp. No. 10 Burrell, W. H. Smith Sur. Drlg.

Cleveland—Liberty County

Gulf Oil Corp. No. 15-C Cleveland, J. Pleasant Sur. Drlg. shells 5,450 ft.

Esperson—Liberty County

General Crude Oil Co. No. 26 Esperson, C. W. Fisher Sur. Drlg. sh. 3,082 ft.

Hankamer—Liberty County

Uscan Oil Co. No. 5 Eszell, Levi Borrow Sur. Drlg. sh. 5,530 ft.

Hardin—Liberty County

Jack Frazier et al No. 1 George Rearies, Amos Green Sur. Drlg. sh. 6,900 ft.

Hull—Liberty County

Gulf Oil Corp. No. 26 Morris-Phillips, O. Underton Sur. Drlg. sh. 4,523 ft.

Republic-Houston No. 160 Dolbear, J. Devore Sur. M.I.R.

Van Vleck—Matagorda County

Skelly Oil Co. No. 8-B Cobb, M. Cummins Sur. R.U.

Skelly Oil Co. No. 1 Langham, M. Cummings Sur. T.D. 7,505 ft.; perforated csg. from 7,460-75 ft.; failed to flow; prep. to drill deeper.

Skelly Oil Co. No. 2 Metzler, M. Cummins Sur. Moving in.

Skelly Oil Co. No. 1 G. Moore, I.&G.N. Sur. Spudded.

Skelly Oil Co. No. 1 Rugeley, I.&G.N. Sur. No. 267. T.D. 7,505 ft.; perf. csg. 7,480-99 ft.; I.P. 480 B.P.D., ¼-in. ck.; T.P. 1,300 lbs.; C.P. 1,200 lbs.

Skelly Oil Co. No. 7-B Cobb, M. Cummings Sur. 13⅜-in. csg. at 1,402 ft.; drlg. sh. and L. 4,515 ft.

Conroe—Montgomery County

Humble O. & R. Co. No. 54 Moore. T.D. 5,006 ft.; 7-in. csg. at 4,999 ft.; I.P. 50 B.P.H., ½-in. ck.; T.P. 350 lbs.; C.P. 675 lbs.

Splendora—Montgomery County

Tide Water Oil Co.-Darby Pet. Co. No. 1 W. C. and Ella Corbett, Josiah Blackman Sur. Abd. 6,418 ft.

Ace—Polk County

Dick Schwab No. 1-A Kirby West Lbr. Co. T.D. 4,816 ft.; 5-in. csg. on bottom; I.P. 349 B.P.D., ¾-in. ck.; T.P. 1,225 lbs.; C.P. 1,465 lbs.

Turnbull-Irwin et al No. 1 M. E. Roberts. Rig up.

Livingston—Polk County

Hawkeye Pet. Co. No. 1 W. F. Harder, A. Viesca Sur. Drlg. sh. 1,620 ft.

Greta—Refugio County

Hewitt & Daugherty No. 24 Lambert, Hardwick Sur. T.D. 5,917 ft.; W.O.C.

Refugio—Refugio County

D. & D. Oil Co. No. 3, Heard townsite. T.D. 4,922 ft.; W.O.C.

Local Oil Co. No. 1 Rhea, Refugio Town Tr. S.D. 650 ft.

Quintana Pet. Co. No. 36-A Tom O'Connor, Swisher Sur. Drlg. sh. 3,780 ft.

United Gas Co. No. 12 Fannie Heard, Refugio townsite. Drlg. sh. 2,937 ft.

United Gas Co. No. 13 Fox, Hughes & Brown Sur. T.D. 5,880 ft.; W.O.C.

Tomoconnor—Refugio County

Quintana Pet. Co. No. 35-A Tom O'Connor, Swisher Sur. T.D. 5,901 ft.; 7-in. csg. 5,900 ft.; I.P. 1,300 B.P.D., ⅝-in. choke.

Coletto Creek—Victoria County

American Liberty Oil Co. No. 4 Pribil, R. Manchola Sur. Cg. sh. 2,910 ft.

Keeran—Victoria County

Gulf Oil Corp. No. 8 Keeran, Dat[illegible] Sur. T.D. 6,444 ft.; 7-in. csg. at 3,301 ft.

Placedo—Victoria County

Barnsdall-American Liberty No. 3 Pickering-Roos, J. M. Brownson Sur. R.U.

Barnsdall-American Liberty No. 3 W. R. Smith, A. Murphy Sur. R.U.

Eastern Texas Pet. Co. No. 2 Hosek, J. M. Bronson Sur. Drlg.

Harrison & Abercrombie No. 2 Sturdevant, S.A.&M.G. Sur. T.D. 4,763 ft.; I.P. 21 B.P.H., ¼-in. ck.; T.P. 850 lbs.

Harrison & Abercrombie No. 3 Sturdevant, S.A.&M.G. Sur. R.U.

Smith-Gulf No. 1-B Henderson and Pickering, S.A.&M.G. Sur. T.D. 4,735 ft.; 7-in. csg. at 4,772 ft.; testing.

Superior O. & G. Co. No. 10 Henderson & Pickering, J. M. Bronson Sur. R.U.

Clay Creek—Washington County

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur Drlg. sd. and sh. 5,635 ft.

Sun Oil Co. No. 7 H. Witt, J. F. Perry Sur. T.D. 1,213 ft.; I.P. 115 B.P.D.; T.P. 350 lbs.; C.P. 160 lbs.

Louise—Wharton County

Pure Oil Co. No. 1 Cochran, M.&C. Sur., sec. 29. T.D. 5,160 ft.; 7-in. csg. at 5,120 ft.; I.P. 95 B.P.D.

Pure Oil Co. No. 5 McIntyre, Morris-Cummins Sur. T.D. 1,206 ft.; 10¾-in. csg. on bottom.

Pickett Ridge—Wharton County

Adrian Moore No. 1 W. P. Wilbeck, J. Tele Forlner Sur. T.D. 4,703 ft.; recovered some oil and 850 lbs. pressure on 15-min. D.S.T. from 4,685-4,703 ft.

Crown Central Pet. Co. No. 1 J. J. Rod, W.C.R.R. Sur. T.D. 4,608 ft.; 7-in. csg. at 4,596 ft.; flowed 212 B.P.D., 30 per cent S.W., ¾-in. ck.; T.P. 160 lbs.; C.P. 1,325 lbs.

Texas Co. No. 2 Marek, George Reynolds Sur. Abd. 6,260 ft.

Texas Co. No. 19-A Pierce, I.&G.N. Sur No. 38. T.D. 4,709 ft.; 7-in. csg. 4,060 ft.; I.P. 5½ B.P.H., 12/64-in. ck.; T.P. 1,550 lbs.

Texas Co. No. 20-A Pierce, I.&G.N. Sur. T.D. 4,712 ft.; rng. 7-in. cs.; comp. for dry gas well.

Texas Co. No. 21-A Pierce, I.&G.N. Sur. No. 38. T.D. 4,712 ft.; 7-in. csg. at 4,705 ft.

Withers—Wharton County

Texas Co. No. 1-B Pierce, E.T.R.R. Sur., Abst. No. 108. T.D. 6,511 ft.; P.B. to 5,200 ft.; sdtkd. at 5,350 ft.; reamed to 5,537 ft.

Texas Co. No. 6-C Pierce, J. Caldwell Sur. T.D. 5,567 ft.; rng. 7-in. csg.

Texas Co. No. 7-C Pierce, J. Caldwell Sur. Drlg. sh. 5,551 ft.

GULF COAST WILDCATS

Austin County

W. H. Mitchell et al No. 1 F. Fenner, J. Fitzgibbons Sur. Drk.

Brazoria County

Gulf Oil Corp. No. 1 Fairfield, A. Robinson Sur. T.D. 8,398 ft.; P.B. and sdtkd. 6,259 ft.; drld. 6,277 ft.; cmtd. back to 6,243 ft.; drlg. sh. in sdtrkd. hole at 6,836 ft.

Strake Oil Corp. et al No. 1 D. K. Pool, J. W. Hardin Sur. T.D. 6,731 ft.; preparing to drill ahead.

Texas Co. No. 3 Freeport Sulphur Co., C. Areola Sur. Drlg. sh. and L. at 4,890 ft.

Texas Gulf Prod. Co. No. 1 Sparks, Wm. Roberts Sur. Rng. an electrical cg. test and will abd.; T.D. 7,525 ft.

Calhoun County

Continental Oil Co. No. 1 T. Vandenberg, sec. 12, Blk. H. 15-in. csg. at 1,520 ft.

Fayette County

Ben G. Barnett No. 1 McKinnon, A. Zumwalt Sur. Abd. 3,547 ft.

Galveston County

Shell Pet. Corp. No. 1 Maco Stewart, Spillman Sur. Drlg. sd. 1,009 ft.

Grimes County

Crook Bros. No. 1 W. W. and J. C. Greir. Drlg. sh. 2,822 ft.

Hardin County

S. Hindman No. 1 Howth, A. J. Cotton Sur. S.D. 4,437 ft.

David B. MacDaniel No. 1 Nona Mills, E. E. Manuel Sur. Abd. 8,089 ft.

Republic-Houston Oil Co. No. 2 Burrell, A. A. Burrell Sur. Drlg. sh. and sd. at 6,292 ft.

Harris County

Amerada Pet. Corp. et al No. 1 Dopslout C.W.R.R. Sur., Blk. 1, sec. 2. T.D. 7,820 ft.; 7-in. csg. at 6,866 ft.; prep. to perf.

Bunte O. & G. Co. No. 1 Lobit et al, Benjamin Barrow Sur. Drk.

Zeni Oil Co. No. 1 W. A. Perkins, A. Sherrell Sur. Drlg. sh. 1,831 ft.

Houston County

Ellison & McBride No. 1 Bean, E. Stedman Sur. Drlg. chalk 4,660 ft.

Jefferson County

Magnolia Pet. Co. No. 1 Funches, sec. 16, H.T.&B. Sur. T.D. 8,540 ft.; had gas sd. from 8,318-21 ft.; to run electrical cg. test.

McSpadden et al No. 4 Burrell estate. Drlg. sdy. sh. 3,740 ft.

Shell Pet. Corp. No. 1 Carpenter, M. E. Pivoto Sur. Cg. sdy. sh. 4,317 ft.

Sun Oil Co. No. 1 Herbert & Broussard, B. Blackman Sur., Abst. No. 2, T.D. 8,707 ft.; milled through csg. at 7,026 ft.; S.D.

Matagorda County

Sun Oil Co. No. 1 Craig, Thomas Williams, Sur. T.D. 6,326 ft.; P.B. 5,850 ft.; perf. csg. 5,340-95 ft.; swbd. dry; perf. csg. from 5,240-95 ft.; swbd. dry.

Montgomery County

W. O. Bilonski et al No. 1 J. W. Wood, Wm. Weir Sur. Spudded.

Walter Blumenthal No. 1 Delta Land & Timber Co., J. Beuhn Sur. T.D. sh. 4,011 ft.

Orange County

Tide Water Oil Co. No. 1 E. N. Brown, Mary Latham Sur. Spudded.

San Jacinto County

J. A. Deering No. 1 Randolph, V. Flores Sur. R.U.

Tyler County

McArthur & Mixon No. 1 D. D. Kounts, J. A. Honkins Sur. T.D. 65 ft.

Walker County

Boone Bros. No. 1 Thompson Bros., J. Ortego Sur. Drlg. 67 ft.

L. M. Gay et al No. 1 M. E. Stubblefield, G. Bodilla Sur. R.U.

Wharton County

Pure Oil Co. No. 1 A. P. Borden et al, W. H. Leckie Sur. No. 25. Moving in.

Pure Oil Co. No. 1 Paige, James Pirie Sur. T.D. 9,200 ft.; perf. 7,680-7,700 ft.; cutting 6⅝-in. csg.; swbd. drlg. mud showing very small amt. of gas; P.B. to 7,553 ft.; T.A.

Pure Oil Co. No. 1 Sam Shultz, L. P. Odgen Sur. No. 108. Moving in.

Smith & McDannald No. 1-A Priesmeyer, Charles Riley Sur. Cg. sd. and L. 4,011 ft.

Sterling O. & R. Co. No. 1 Genzer-Jonathan Scott Sur. S.D. 6,875 ft.; P.B. and sdtrkd.; drlg. sh. 6,260 ft.

S. W. TEXAS WILDCATS

Aransas County

Buckingham Oil Co. No. 1 McCampbell, sec. 41-42, James Arids Sur. T.D. 7,501 ft.; recovered 6,200-ft. pipe; W.O. orders.

Atascosa County

Atascosa Trust No. 1 Domsch, 160 ft. S line, 300 ft. E line, 153-ac. lease, J. T Russell Sur. 1,322. T.D. 3,519 ft.; set csg.; swbg. oil show.

Bastrop County

Marts & Beavens No. 1 Hartford-Jennings. Flowed fresh wtr.; S.D.

Bee County

L. Glasscock No. 1 Holzmark, James York Sur. Drlg. 3,027 ft.

J. F. Haworth No. 1 Copeland, 330 ft. N line, 2,100 ft. E line, O. Marshall Sur. T.D. 4,252 ft.; 7-in. csg. at 3,523 ft.; perf. 3,460-69 ft.; made 1,500,000 ft. gas; 11/64-in. ch.; killed well and cmtd. perf. stdg.

Howeth & Singer No. 1 Voss, 990 ft. NW line, 330 ft. SW line, S. May Sur. Set sur. csg.; W.O.C.

Luling Oil & Gas Co. No. 2-A Ruhman, 600 ft. S and 16 ft. W No. 1-A. D.&A. 1,950 ft.

Marine Oil Co. No. 1 Ray, 360 ft. E line, 330 ft. N line, 40-ac. tr., Anna Birks Sur. S.D. 4,410 ft.

Nichols & Quinn No. 1 Scott, Blk. 7, J. Molina Sur., Uranga grant. Loc.

Bexar County

Nick Morosis No. 1 T. O. de Ruiz, F. Rolen Sur. D.&A. 785 ft.

Fred Thorman No. 1 Sahm, Peter B. Hayes Sur. Drlg. 1,074 ft.

Woodward & Hardy No. 1 DeVilbiss, J. W. DeVilbiss Sur. Drlg. 614 ft.

Brooks County

California Co. No. 1 B. Garcia, 465 ft. N and W lines lse., B. Garcia tr., Salnias Sur. T.D. 7,500 ft.; waiting orders.

Caldwell County

W. D. Jennings No. 1 McMahon, 68-ac. tr., Pinchback Sur. T.D. 2,343 ft.; set csg. 1,995 ft.; to acidize.

Cameron County

W. W. Ely No. 1 Port Isabel Irrigation Co., Blk. 17, Shares 29, 30 and 31, P. I. I. Co. Subd. Loc.

Duval County

Conservative Oil Co. No. 1, D.C.R.C. Sur. 51. Drlg. sh. 450 ft.

Gifford Oil Co. No. 1 Roach, Sur. 200. Ready to spud.

Frank Gravis No. 1 C. E. Gravis, 1,650 ft. SE line, 990 ft. SW line, Sur. 350. T.D. 5,187 ft.; P.B. to 4,150 ft.; sdtrkg.

Kepley Prod. Co. No. 1 Sevier, 330 ft. S line, 1,320 ft. E line, Sur. 71. T.D. 3,410 ft.; D.&A.

J. J. O'Hern No. 1 Carrillo, Sur. 492. Loc.

Randon Oil Co. No. 1 Central Securities. Set sur. csg. 280 ft.; W.O.C.

Rogers & Rogers No. 1 Pena, 3,337 ft. SW line, 1,306 ft. NW line, R. S. de Pena plat. Drlg. below sur. csg.

Texas Co. and Ohio Fuel Co. No. 2-B, D.C.R.C. Sur. 193. Cg. sh. 2,264 ft.

Guadalupe County

J. E. Clark No. 1 Anderson, Green De Witte Sur. Drlg. 2,214 ft. in sdtrkd. hole.

Hidalgo County

Gerald O. & G. Co. No. 1 Nelson Mortgage Co., Blk. 38, Lot A, LaDonna Tr. D.&A. 6,237 ft.

Gulf States Oil Co. No. 2 John Engleman, Lot 3, Blk. 70. T.D. 6,812 ft.; sh.; 7-in. csg. at 6,764 ft.; P.B. to 6,700 ft.; perf. csg. 6,722-27 ft.; flowed S.W.; to P.B. again.

Helen K. Maxwell No. 1 Hidalgo Wtr. Dist. No. 2, Lot 11, Blk. 20, Alamo Land & Sugar Co. Subd., Alamo Tr. Perf. 650-56 ft.; bailing Wtr. S.O.

Quintana Petroleum Co. No. 1 John C. Engleman, Lot 10, Blk. 94, Las Mestanas grant. S.D. 3,904 ft.

Dayle Smith No. 1 Fairbanks & Young, Blk. 44, Porc. 46. Fsg. 1,856 ft.

Jim Hogg County

J. J. Cosner No. 1 Vela hrs., Sh. 1, Blk. 5, Clark & Cowden Subd., El Peyote gr. Loc.

Magnolia Pet. Co. No. 1 Magnolia-Holbien, Sur. 35, Arriba grant. Cg. 1,156 ft.

Theo. Hicks et al No. 1 Kohler, C W⅓ sec. 9, Novacitas grant. Loc.

Knode et al No. 1 Saunders, Sh. 3, Sur. 17, Las Animas grant. Drlg. sd. and sh. 3,227 ft.

Jim Wells County

Edwin M. Jones No. 1 Robt. Adams, 446 ft. S and W lines, Blk. 47, Waldron Oil & Gas Subd., Adams ranch. Drlg. 2,920 ft.

R. A. Graddy No. 1 Bennett, 330 ft. N and W lines, Lot 87, sec. 76. Drlg. 1,107 ft.

Gist & Graddy No. 1 Owens, 660 ft. N line, midway E and W lines. Sur. 151. T.D. 1,835 ft.

Karnes County

R. L. Barnett No. 1 fee, NE cor. 568-ac. tract. Set sur. csg.; W.O.C.

DeGraffe & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell League. Spudded in.

Kerr County

Auld & Evans No. 1 Heffner, 660 ft. N line, 330 ft. E line, sec. 13. Std. 2,096 ft.

LaSalle County

Davenport & Talbott No. 1 Watkins, 1,610 ft. S line, 330 ft. E line, Sur. 103. S.D. 2,730 ft.

Paul Meader No. 1 Reed, sec. 136. Fsg. 2,790 ft.

W. H. Vernon No. 1 Las Abias ranch, 150 ft. N line, midway E and W lines, sec. 726. Loc.

Live Oak County

W. A. Brooks No. 1 Terrill, 1,000 ft. NE R.R., 1,500 ft. S line lse., Juan Houligan Sur. D.&A. 2,017 ft.

Dirks Bros. No. 1 Geo. West Est., 1,361 ft. SE line, 340 ft. NE line, 80-ac. tract. D.&A. 4,006 ft.

R. H. Feltner No. 1 J. T. Carter, 1,847 ft. NW line, 350 ft. NE line, 120-ac. tract, sec. 319. Drlg. sd. 3,501 ft.

J. J. McRoberts No. 1 Mahoney, 2,100 ft. SW Junction Three Rivers, Tilden Highway and Thomas Henry Sur. lines, 150 ft. N. Set sur. csg. 40 ft.; W.O.C.

Windsor Oil Co. No. 1 B. E. Stoltz, cen. tr., Wm. Kundy 3,690-ac. blk. R.U.

McMullen County

Climax Oil Co. No. 1 Lark, 150 ft. S and W lines, Blk. 96, Scrugham Sur. Loc.

Rainer Oil Co. No. 1 Hagist, 330 ft. N and W lines, SW¼, SE¼, Sur. 25. Spd.

Reliance Oil & Roy. Co. and Santa Clara Oil Co. No. 1 Shiner, 330 ft. N line, 150 ft. E line, NW¼, W½, sec. 80, Shumway Subd. D.&A. 2,540 ft.

Nueces County

V. L. Blanchard No. 1 T. H. Isensee, 330 ft. N and E lines, Blk. 8, R. Schaffer Lands Subd. Drlg. 3,905 ft.

W. D. Hines No. 1 Flato, NW cor. Driscoll townsite. S.D. 5,072 ft.

M. F. Huriburt No. 1 Phillips, sec. 5, Flour Bluff Garden Tracts. T.D. 6,784 ft.; prep. to drill deeper.

O. W. Killam No. 1 Ellick, 330 ft. and E lines tr., sec. 109, Paul Subd. Sd. 3,892-98 ft.; blew out; est. 2,000 B.P.D. oil and S.W.

Terminal Oil Prod. Co. No. 1 Thurman, 660 ft. N and W lines, SW¼, sec. 10. S.D. 3,566 ft.

G. M. Richardson No. 1 Gerhardt, 660 ft. E line, 330 ft. N line, sec. 79. Drlg. 5,365 ft.

San Patricio County

Benedum & Trees Oil Co. No. 2 Welder sec. 19. Cg. 6,840 ft.

Benedum & Trees Oil Co. No. 3 Welder, 2,259 ft. E line, 940 ft. S line, sec. 19, Welder Ranch Subd. Drlg. 3,620 ft.

C. B. Bunte No. 1 Mayfield, 121 ft. W line, 237 ft. N line, Tr. 11, Ross Subd R. U. and S.D.

Joe Lundins No. 1 Welder, 330 ft. N and W lines, sec. 30, Paul Subd. Spudding.

Portilla Oil & Gas Co. No. 1 Welder, 460 ft. E line, 2,333 ft. N line, sec. 5. Drlg. 5,012 ft.

Starr County

J. F. Anderson No. 1 Yzagierre, Tr Porc. 79, J. of Camargo. Cg. sd. and sh. 1,585 ft.

Bishop & Henshaw No. 1 Martin, 660 ft. S line, 927 ft. W line, Sur. 627. R.U.

Coreta Oil Co. No. 1 Pena, 150 ft. S and E lines, Sh. 80, Porc. 81. T.D. 1,500 ft. S.D.

Killam & Stagg, No. 2 Sanford Ricaby, Porc. 93, Jurisdiction of Camargo. R.D.

Kingwood Oil Co. No. 1 M. Guerra & Son, Porc. 56, Jurisdiction of Mier. Drlg. 467 ft.

Larkin & Warr No. 1 Kelsey-Bass, 533 ft. N line, 408 ft. E line, Lot 8, Porc. 87. T.D. 3,423 ft.; 15-min. D.S.T. from 2,638-48 ft.; recovered 9 ft. mud cut with oil; prep. core ahead.

Ed Leach No. 2 Wood Est., Por. 84, J. of Camargo (old Weyel No. 1 Wood) W.O. T.D. 2,160 ft.; reworking.

Porter Evans et al No. 1 Starr County

Cattle Co., cen. Lot 14, Sh. 60, Porc. 89, J. of Camargo. Loc.

Webb County

French Oil Co. No. 1, S. Benavides Sur. No. 2,254. Drlg. 510 ft.
Illinois Pet. Co. No. 1 J. H. Kirkpatrica, 330 ft. S and E lines, NW¼, Blk. 1, sec. 16. Sds. 1,815-23 and 2,220-27 ft.; show S.W.; D.&A. 2,302 ft.

Willacy County

M. E. Morton et al No. 1 Santa Rosa, 330 ft. N and E lines, Lot 12, Blk. 34, Santa Rosa Subd., Sh. 44. Loc.
Shell Pet. Corp. No. 1 Yturria Land & Cattle Co., 990 ft. S and E lines, Sha. 64, San Juan de Carricitos grant. T.D. 5,486 ft.; P.B. 4,700 ft.; drlg. 5,026 ft.

Wilson County

A. G. Reimenschneider No. 2 L. Harrell, 750 ft. NE line, 3,800 ft. NW line, Barrera Sur. No report.

Zapata County

O. J. Perren No. 1 Uribe, 330 ft. NE line, 227 ft. SE line, Blk. 31, Borrego grant. R.U.

Zavalla County

Bay Oil Co. No. 1 Nat. Bank of Commerce, sec. 43, A.B.&M. Sur. T.D. 5,828 ft.; set csg. at 5,724 ft.; W.O.C.
W. L. Bridges No. 1 Price & Flowers, 1320 ft. N and W lines, Blk. 1, sec. 19. T.D. 450 ft.; S.D.
Frank Buttram No. 1 Whitecotton, 2,400 ft. N line, 300 ft. W line, A.B.&M. Sur Cg. chalk 5,379 ft.; top chalk 5,281 ft.
Leona Oil Co. and Witherspoon Oil Co No. 1 West, 330 ft. E line, midway N and S lines, sec. 1, Bustillo Sur. S.D. 6,020 ft.

S. W. TEXAS PROVEN

Dirks—Bee County

Dirks Bros. and McMurray No. 2-B Harris, 200 ft. N line, 1,025 ft. W line, 61.9-ac. tr., J. L. Dugat Sur. Lost hole; skidded 35 ft. east; drlg. 3,796 ft.

Pettus—Bee County

United Prod. Co. No. 53 Ray, Thos. Hanson Sur., Abst. 172. Sd. 3,934-35 ft., tested gas; drlg. to Yegua 3,990 ft.

Ray—Bee County

N. V. Duncan No. 3-A Campbell, B.&B Sur., Abst. 139. R.U.

Alta Verde—Brooks County

Fairway Prod. Co. No. 1 Singer, Sur. 312. Loc.
Pedernal Oil Co. No. 1 Singer, 330 ft. S line, 280 ft. W line, NW¼, SW¼, Sur 436. T.D. 1,003 ft.; D.&A.
Starr Dev. Co. No. 1 Singer, Sur. 436. Drlg. sh. 385 ft.

Salt Flat—Caldwell County

Chiquita Oil Co. No. 1 Hickman, G. Hinds Sur. T.D. 2,273 ft.; set csg.; W.O.C.
Louis Crouch No. 1 Davis, A. Floyd Sur. T.D. 2,680 ft.; set csg.; running tbg.

Driscoll—Duval County

Continental Oil Co. No. 9-A Sevier, Sur 23. Sd. 3,330-41 ft.; tested gas; P.B. from 3,604 ft. to 3,414 ft.; W.O.C.

Government Wells—Duval County

Morris Stein No. 1 Hahl, 160-ac. tract, Sur. 47. Spudded in.
J. T. Stover No. 1 Hester, 330 ft. S and E lines, SW¼, NE¼, Sur. 47. Drlg. 2,040 ft.

Hoffman—Duval County

Duval Oil Corp. No. 2 Hoffman, Sur. 118. Drlg. 2,409 ft.
Duval Oil Corp. No. 3 Hoffman, sec. 118. Sd. 2,851-58 ft.; comp. 8 B.P.H.; T.D. 2,862 ft.
Duval Oil Corp. No. 4 Hoffman, sec. 118. Skidding on.
W. C. McBride No. 1 Cuellar, Sur. 123. R.U.; S.D.
W. D. Maston No. 1 Ruiz, Sur. 128. Set 8d. 2,889-96 ft.; W.O.C.
Rogers & Rogers No. 3 Sutherland, 500 ft. W of No. 1, 330 ft. S line, sec. 120. Drlg. 1,727 ft.
Standard of Kansas No. 6 Hoffman, Sur. 118. Drlg. 2,317 ft.
Standard of Kansas No. 7 Hoffman, Sur. 118. Comp. 10 B.P.H.; sd. 2,848-67 ft.
Standard of Kansas No. 8 Hoffman, Sur. 118. Set sur. csg.; W.O.C.
Sun Oil Co. No. 1 Sutherland, Sur. 68. P.B. 3,262 ft.; W.O.C.

N. Kohler—Duval County

Navarro Oil Co. No. 1 Peters, Sur. 39. Drlg. 87 ft.
Windsor Oil Co. No. 2 Peters, 2,304 ft. S line, 3,269 ft. E line, Sur. 33. Drlg. 2,774 ft.

Labbe—Duval County

Stanolind O. & G. Co. No. 4 Farmers Life Ins., Sur. 416. P.B. 2,440 ft.; comp. gasser; R.P. 850 lbs. on ¼-in. choke.

Loma Novia—Duval County

Bridwell Oil Co. No. 4-A Hubbard, sec. 71. Drlg. 2,140 ft.
Bridwell Oil Co. No. 8-B Hubbard, Sur 75. Sd. 2,630-45 ft.; T.D. 2,717 ft.; comp.; no gauge.
Bridwell Oil Co. No. 1-D Hubbard, sec. 73. Set sur. csg.; W.O.C.
C. C. Hamill No. 19 Hubbard, Sur. 77. Drlg. 2,614 ft.
Humble O. & R. Co. No. 39-B Hubbard, Sur. 83. Sd. 2,619-35 ft.; set 5½-in. csg.; cleaning into pits.
Humble O. & R. Co. No. 46-B M. C. Hubbard, Sur. 83 Drlg sh 2,188 ft
Humble O. & R. Co. No. 51-B Hubbard, Sur. 83. Comp. 17.93 B.P.H. on ½-in. ck.; T.D. 2,795 ft.
Humble O. & R. Co. No. 53-B Hubbard, Sur. 72. Comp. 11 B.P.H.; sd. 2,785-94 ft.
Humble O & R. Co. No. 54-B M. C. Hubbard, Sur. 83. Drlg. hd. sd. 2,070 ft.
Humble O. & R. Co. No. 63-B Hubbard, Sur. 72. Loc.
Humble O. & R. Co. No. 12 Ruiz. Sur. 553. Comp. on pump; no gauge; oil sd. 2,760-65 ft.; T.D. 2,774 ft.
Humble O. & R. Co. No. 9 Vela, Sur. 42. M.I.R.
Magnolia Pet. Co. No. 35 Hahl, Sur. 67. Drlg. 1,750 ft.
Magnolia Pet. Co. No. 37 Hahl, Sur. 67. Comp. 15 B.P.H. on ½-in. ck.; T.D. 2,659 ft.
Magnolia Pet. Co. No. 38 Hahl, Sur. 67. T.D. 2,661 ft.; comp. 25 B.P.H. on ½-in. ck.
Magnolia Pet. Co. No. 39 Hahl, Sur. 67. Set csg. 2,678 ft.; W.O.C.
Rodney DeLange No. 4 Flodin, Sur. 76. Spudding in.
Rodney DeLange No. 4 Moody, Sur. 76. R.U.
Shell Pet. Corp. No. 2 Bishop, Sur. 59. Comp. 25.43 B.P.H.; T.D. 2,563 ft.
Shell Pet. Corp. No. 3 Bishop, Sur. 59. Drlg. 521 ft.
Shell Pet. Corp. No. 26 Hubbard, Sur. 77. Sd. 2,707-15 ft.; comp. 12 B.P.H.; T.D. 2,735 ft.
Shell Pet. Corp. No. 27 Hubbard, Sur. 77. Sd. 2,713-18 ft.; set csg. 2,703 ft.; W.O.C.
Shell Pet. Corp. No. 30 Hubbard, Sur. 84. Drk.
Shell Pet. Corp. No. 31 Hubbard, Sur. 77. Comp. 16 B.P.H.; T.D. 2,765 ft.
Texas Co. No. 15 B.C.C., Sur. 59. Drk. collapsed; stdg.; cleaning wreckage.
Texas Co. No. 40 Wendt, Sur. 68. Comp. 34 B.P.H. on ½-in. ck.; T.D. 2,672 ft.
Texas Co. No. 41 Wendt, Sur. 68. Set sur. csg. 95 ft.; W.O.C.
Texas Co. No. 42 Wendt, Sur. 68. Comp. 49 B.P.H. on ½-in. ck.; T.D. 2,638 ft.
Texas Co. No. 43 Wendt, Sur. 68. Comp. 16 B.P.H. on ½-in. ck.; T.D. 2,623 ft.

Loma Vista—Duval County

Atlantic Oil Prod. Co. No. 1 J. F. Welder hrs., 330 ft. N and E lines, 160-ac. tr., Sur. 103. Loc.
Shell Pet. Corp. No. 1-A Welder, 1,040 ft. W line, 330 ft. N line lease, Sur. 103 (new hole). Cg. 3,113 ft.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 3 D.C.R.C., NW¼, Sur. 95. T.D. 1,982 ft.; comp.; no gauge.
Magnolia Pet. Co. No. 4 D.C.R.C., Sur. 95. Drlg. 1,856 ft.
Texas Co. No. 18 D.C.R.C., Sur. 95. Set csg. 1,952 ft.; W.O.C.

Seven Sisters—Duval County

Atlantic Oil Prod. Co. & Darby Pet. Corp. No. 2-G Welder, Sur. 102. Loc.
Atlantic Oil Prod. Co. No. 13-D Welder, Sur. 113. Comp. 20 B.P.H.; T.D. 2,488 ft.
Atlantic Oil Prod. Co. No. 1-G Welder, Sur. 102. Comp. 4½ B.P.H.; sd. 2,423-30 ft.; T.D. 2,430 ft.
S. B. Cloyes No. 1 Serna, 330 ft. N and E lines tr., Sur. 384. Loc.
Dulce Henderson & Harvey No. 1 Hagist, Sur. 271. Loc.
Humble O. & R. Co. No. 4 Badgley, Sur. 307. R.U.
Humble O. & R. Co. No. 14-A Serna, SW¼, Sur. 384. Sd. 2,468-83 ft.; comp. 35.92 B.P.H.; T.D. 2,483 ft.
Humble O. & R. Co. No. 15-A Serna, Sur. 384. Set sur. csg. 53 ft.; W.O.C.
Humble O & R. Co. No. 12-B Serna, Sur. 384. Sd. 2,493-2,504 ft.; cg. sd. 2,602 ft.
Humble O. & R. Co. No. 13 Smith, Sur. 382. Sd. 2,396-2,401 ft.; swbg. in.
Humble O. & R. Co. No. 5 Wright, Sur. 118. Sd. 2,408-17 ft.; comp. on pump; no gauge.
Chas. Kleiner No. 1 Chernosky, Sur. 226. Loc.
Mid-Continent Pet. Corp. No. 8 Serna, Sur. 384. Rng. to set csg. on sd.
Navarro Oil Co. No. 5 Welder, Sur. 383. Skidding on.
Pan American Prod. Co. No. 4-A Welder, Sur. 381. T.D. 2,450 ft.; W.O. orders.
Pan American Prod. Co. No. 1-C Welder, Sur. 383. Drlg. 2,310 ft.
Parr Oil Co. No. 4 Welder, Sur. 383. Drlg. 2,380 ft.
Reliance Oil & Royalty Co. and Henderson & Harvey No. 1 Drummond (new hole) 330 ft. S and E lines, Sur. 308. Drlg. in new hole 350 ft.
Reliance Oil & Royalty Co. and H. H. Henderson No. 2 Drummond, Sur. 308. Comp. 29½ B.P.H.; sd. 2,505-19 ft.
Reliance Oil & Royalty Co. No. 2-A Telford, Sur. 386. Sd. 2,671-92 ft.; comp. 4 B.P.H. on ⅝-in. ck.; T.D. 2,696 ft.
Reliance Oil & Royalty Co. No. 9 Welder, Sur. 381. T.D. 2,413 ft.; comp. 8 B.P.H. on ½-in. ck.
Santa Clara Oil Co. No. 6-B Welder, Sur. 381. T.D. 2,487 ft.; sd. 2,459-87 ft.; set csg. 2,479 ft.; W.O.C.
Santa Clara Oil Co. and H. H. Henderson No. 4-D Welder, Sur. 381. Loc.
Texas Co. No. 1 Badgley, Sur. 307. Sd. 2,512-26 ft.; comp. 22 B.P.H. on ½-in. ck.
Westheimer & Daube No. 11 Campos, Sur. 224. Sd. 2,658-74 ft.; set csg. 2,674 ft.; W.O.C.

Pearsall—Frio County

Amerada Pet. Corp. No. 6 Halff & Oppenheimer, 466 ft. S and W lines, S. A. Ditch. Co., Sur. No. 1,104. Recomp. 229 bbls. in 9 hrs. on ½-in. ck.
Amerada Pet. Corp. No. 7 Halff & Oppenheimer, 1,320 ft. W line, 330 ft. S line, J. H. Gibson Sur. No. 16. T.D. 3,926 ft.; P.B. 3,910 ft.; W.O. tools.
Amerada Pet. Corp. No. 1 Miller, 466 ft. NE and SE lines tr., B. Saltillo Sur. Loc.
Combs & Oakes No. 1 Arp, 330 ft. S and E lines, 102-ac. tr., S. Blair Sur. 297. Drlg. sdy. sh. 4,352 ft.

North Pettus—Goliad County

Bostex Oil Co. No. 1 Lackey, 1,650 ft. NW line, J. Gomez Sur., 1,660 ft. SW of No. 3-A. M.I.M.
Diamond Half Oil Co. No. 3 Gillette, 1,650 ft. N line, C E and W lines, J. Gomez Sur. Set csg. on sd. 3,656-64 ft.; comp. 60 B.P.D. on ¼-in. ck.; T.D. 3,678 ft.
Jane Oil Co. No. 3-B Gillette, 810 ft. SE No. 2-B, cen. N and S lines, J. Gomez Sur. Spdg.
Jane Oil Co. No. 9 Mudd, B.&B. Sur. 25. Sd. 3,705-12 ft.; comp. 6 B.P.H. on ¼-in. ck.
Jane Oil Co. No. 1 Runge State Bank, 990 ft. SE line, 150 ft. SW line, J. B. Meyers Sur. Loc.
Magnolia Pet. Co. No. 1 Gillette, 137 ft. SW line lse., 1,650 ft. NW line, J. Gomez Sur. Drlg. 2,922 ft.
Sun Oil Co. No. 6 Scarborough, E. Talley Sur. Sd. 3,632-40 ft.; set 7-in. csg. 3,640 ft.; W.O.C.

Clark—Guadalupe County

Eickenroht & Gallagher No. 1 Johns, 130 ft. E line, 450 ft. N line, 840-ac. tr., DeWitt Sur. 13. T.D. 3,134 ft.; S.D.

Mercedes—Hidalgo County

Union Sulphur Co. No. 7 American Rio Grande L. & I. Co., 4,000 ft. SE of No. 1 Farm Tr. 2,309, Blk. 59. T.D. 7,597 ft.; S.D. for orders.
Union Sulphur Co. No. 8 American Rio Grande L. & I. Co., 660 ft. N & E lines Tr. 2,120, Blk. 87. T.D. 7,822 ft.; P.B. 7,590 ft.; W.O.C.
Union Sulphur Co. No. 9 American Rio Grande L. & I. Co., Farm Tr. 2,275, Blk. 59. Cg. 7,347 ft.

Samfordyce—Hidalgo County

J. T. Barlow No. 1 Marta Flores de Chapa, Tr. 250, Porc. 39 (workover). Comp. as gasser; sd. 2,953-55 ft.; reworking; to set csg. on bottom and reperf.
Barnett Pet. Corp. No. 3-A Sheldon, Tr. 11. Porc. 41. Drlg. sh. 2,085 ft.
C. A. Clements No. 2 F. B. Guerra, Tr. 254, Porc. 39. Set sur. csg. 207 ft.; W.O.C.
Rogers & Rogers No. 5 Guerra, 230 ft. N and E lines, Tr. 254, Porc. 38, 39 and 40. Cg. 2,700 ft.
Weekly Oil Corp. No. 2 Luia George, Tr. 12, Porc. 41. R.U.
G. W. Wheeler No. 2 Felipe Farias, Tr. 255, Porc. 39. Sd. 2,832.5-53 ft.; tested 400 ft. oil in 30 min.; rmg. to bottom.

Bentonville—Jim Wells County

La Jita Corp. No. 1 Pope, 660 ft. S and E line, sec. 20, King Farm Lots. Drlg. 1,124 ft.
Stanolind O. & G. Co. No. 1 Raney, 330 ft. N and E lines, sec. 16. Drlg. 4,350 ft.
Stanolind O. & G. Co. No. 1 Sain, 330 ft. S and W lines, sec. 18. Drlg. 4,364 ft.
Stanolind O. & G. Co. No. 1 Thompson, 330 ft. N and W lines, NE¼ sec. 4 R.U.
Texon and Lucey No. 1 Dodd, 330 ft. S and E lines, sec. 15, R. King Farm Lots Sud. Sd. 5,717-22 ft.; D.S.T.; 7-min. 5,716-23 ft.; dry gas; cg. 6,043 ft.

Rhode—McMullen County

Humble O. & R. Co. No. 1 Rhode, 330 ft. N and E lines, Sur. 58. Cored sd. 1,795-1,807 ft. with oil odor; set csg.; W.O.C.

Saxet Heights—Nueces County

Bartlett & Reed No. 1 Carson, SW cor., 20-ac. tr., Villareal Sur. Set csg. 4,126 ft.; perf. 4,078-84 ft.; made gas; reworking.
Capitol Oils, Inc. No. 1 Gravis, 2.86-ac. tr., Blk. 11, Bancroft Farm Lots. Cg. 4,035 ft.
W. W. Chapman No. 1 Mrs. J. A. Walsh, 180 ft. SW line, 83 ft. NW line tr., Country Club Addn. Set sur. csg.; W.O.C.
Cherokee Oil Co. No. 1 Groescher, Villareal Sur. T.D. 4,072 ft.; comp. 7 B.P.H. on ¼-in. ck.
J. K. Culton No. 1 Cantwell, 250 ft. W line, 510 ft. S line tr. Drlg. 3,030 ft.
Tom Graham No. 1 Harmon-Flood, Blk. 4 and 5, Ellendale Gardens No. 1. Set csg. on sd.; drlg. in.
Tom Graham No. 1 Haug, Lots 6 and 7, Ellendale Gardens No. 2. Drlg. plugs; T.D. 4,086 ft.
Tom Graham No. 1 Kaiser, Villareal Sur. T.D. 4,077 ft.; rng. tbg.
Graham & Roberts No. 1 Curry, Villareal Sur. Sd. 4,080-85 ft.; brought in as gasser; reperforating 4,073-77 ft.; comp.; no gauge.
Tom Graham No. 1-B Priour, 4½-ac. tr. Drlg. 1,600 ft.
D. H. Hawn No. 1 Priour, 5-ac. tr., Oak Park Addn. Sd. 4,067-75 ft.; set csg.; W.O.C.
D. H. Hawn No. 1 G. R. Swantner, cen. 1.74-ac. tr. R.U.
Pedernal Oil Co. No. 1 C. R. Priour, cen. Blk. 15, Oak Park Addn. Spudded in.
Port O. & G. Co. No. 1 Country Club, C Lot 20, Villareal Sur. Perforated 4,080-85 ft.; comp.; no gauge.
Port Oil & Gas Co. No. 4 Country Club, Lot 20, Villareal Sur. Cg. 4,068 ft.
Port Oil & Gas Co. No. 1 Gibson, cen. 1.25-ac. tr., Blk. B, Harbor View Addn. T.D. 4,065 ft.; comp.; no gauge.
Renwar Oil Co. No. 1 Guaranty Title & Trust Co., Lot 9, Blk. 12, Villa Gardens. Drk.
W. A. Richardson No. 2 Edwards, 10-ac. tr., Villareal Sur. Drk.
Hiram Reed No. 1 Quinn, Villareal Sur. T.D. 4,117 ft.; reperforating to comp.
J. B. Salmon No. 1 Clark, Blk. 4, Oakwood lawn Subd. T.D. 4,076 ft.; comp. est. 100 B.P.D. on ¼-in. ck.
W. F. Stone No. 1 J. H. Dryer, Blk. 8, Villa Gardens. Set sur. csg. 500 ft.; W.O.C.
Taylor Refining Co. No. 2 Corpus Christi Ref. Corp., 3,600 ft. NE discovery well. Cg. 4,069 ft.
Taylor Ref. Co. No. 2 Corpus Christi Country Club, 250 ft. SW line, 1,005 ft. SE line, 73-ac. tr. Sd. 4,066-70 ft.; rng. csg.
Westgate Oil Co. No. 2 Sturm, 730 ft. S No. 3, 150 ft. W line, 83-ac. tr. Comp.; no gauge; perf. 4,081-89 ft.
Winn Drlg. Co. No. 1 Starr, 125 ft. NW line, 150 ft. SW line, 3.39-ac. tr., Blk. 11, Bancroft Farm Lots. Top sd. 4,068 ft.; set csg. 4,077 ft.; W.O.C.

Saxet—Nueces County

Paul Benedum No. 2 Morgan, Sur. 405 (old Gibson O. & G. Co. test) W.O. Drk.
Coastland Oil Co. and Keystone Royalty No. 1 Page Bros. (workover), 330 ft. N and E lines, S 50 acres, 104-ac. tr., Sh. 2, Frank Subd. T.D. 5,931 ft.; D.&A.
W. W. Chapman No. 1 Morgan Clark, 330 ft. S and E lines, 322-ac. tr., Sur. 405. (Old Texas Coast Oil Co. well) workover. Drlg. 5,643 ft.
Conroe Drlg. Co. No. 2 Frank Bliss, J. W. Stevens Sur. 406. Set csg. 150 ft.; W.O.C.
Conroe Drlg. Co. No. 1-B Rand Morgan, 330 ft. N line, 990 ft. E line lease, Sur. 403. Drlg. sh. and L. 2,966 ft.
Conroe Drlg. Co. No. 1-A Rand Morgan, 990 ft. E line, 330 ft. N line, Sur. 403. T.D. 2,250 ft.; S.D. for wtr.
Gilcrease Oil Co. No. 1 Sullivan, 330 ft. N and E lines, 140.13-ac. tr., Thos. Gallagher Sur. Drk.
L. Glasscock No. 1 Glover Johns, W. S. McGregor Sur. 582. R.U.
Great States Oil Co. No. 1 Rand Morgan, B.S.&F. Sur. Sd. 4,075-99 ft.; comp.; no gauge.
Great States Oil Co. No. 1 Smith, 330 ft. W line, 125 ft. N line, 11-ac. tr. D.S.T. 4,418-32 ft.; showed 1,890 ft. oil in 10 min.; rng. csg. 4,432 ft.
W. B. Hinton No. 1 E. B. Cole, 60-ac. tr., Villareal Sur. Sd. 4,848-73 ft.; cleaning in pits.
A. F. Holliday No. 2 Griffith, 347 ft. W of No. 1, G. Frank Sur. 416. Sd. 5,824-40 ft.; comp. est. 600 B.P.D. on 3/16-in. ck.; T.D. 5,840 ft.
A. F. Holliday No. 3 Griffith, 330 ft. N and E lines, 99.79-ac. tr., Frank Sur. 416. Drlg. 2,835 ft.
A. F. Holliday No. 4 Hutchins-Stillwell, 330 ft. S and W lines, Blk. 30, Sheppard Farm Lands. Set sur. csg.; drlg. plugs.
A. F. Holliday No. 3 Hutchins, sec. 30. Blew out and ran wild; capped and stdg.
Houston Oil Co. No. 2 McGregor, Sur. 311 (rework). Cg. 5,860 ft.
Houston Oil Co. No. 11 Rand Morgan, sec. 7, Rge. 5. Drlg. 4,837 ft.
Morgan Gulf Oil Co. No. 3 Rand Morgan, 990 ft. N line, 330 ft. E line, Sur. 403. Sd. 5,815-29 ft.; comp.; no gauge.
Morgan Gulf Oil Co. No. 4-A Rand Morgan, 330 ft. N line, 1,650 ft. E line, B.S.&F. Sur. 403. Rng. sur. csg.
Morgan Gulf Oil Co. and Great States Oil Co. No. 1 Humphreys, 330 ft. S line, 990 ft. W line, Stevens Sur. 406. Drlg. 4,526 ft.
Morgan Gulf Oil Co. and Great States No. 1-B Rand Morgan, B.S.&F. Sur. 404. T.D. 4,091 ft.; set csg.; W.O.C.
Maryland Corp. and R. M. Hutchins No. 1 Gonzales, cen. Blk. 8, Clarkwood Townsite. Sd. 4,418-31 ft.; comp. 32 B.P.H. on ¼-in. ck.
North Star Oil Co. No. 2 Rand Morgan, 330 ft. S line, 1,650 ft. E line, B.S.&F. Sur. 405. Set sur. csg. 1,050 ft.; W.O.C.
Phillips Pet. Co. No. 3 Hutchins, 330 ft. N and W lines, Blk. 19, Sheppard Farm Lots. Drlg. 2,520 ft.
W. A. Richardson No. 1 W. S. Hutchins (workover), 330 ft. S and E lines, 80-ac. tr., Sh. 2, Frank Sur. 416. T.D. 5,000 ft.; M.I.M.
W. A. Richardson No. 4 Meredith, cen. Blk. 9, Clarkwood townsite. Sd. 4,408-21 ft.; comp. 175 B.P.D. on 9/64-in. ck.
Richardson Pet. Co. No. 1 Hugo Isensee, cen. 14.4-ac. tr., C. Land Sur. 404. Sd. 4,390-98 ft.; comp. 200 B.P.D. on ¼-in. ck.; T.D. 4,398 ft.
Shell Pet. Corp. No. 3 Flato, 330 ft. E and S lines lease, 40-ac. tr., I. Dunn Sur. Drlg. 3,436 ft.
Sinclair Prairie Oil Co. No. 2 Isensee, 330 ft. S and E lines, 80-ac. tr., C. Land Sur. 404. Spudded in.
Southern Minerals Corp. No. 2 Rand Morgan, Blk. 42, Roberts Subd. Cg. 5,178 ft.
Southern Minerals Corp. No. 4 Bliss, Sur. 406. Sd. 5,826-38 ft.; comp. 226 B.P.D. on 5/32-in. ck.
Southern Minerals Corp. No. 5 Bliss, S offset Conroe No. 1 Bliss. R.U.
Southern Minerals Corp. No. 6 Bliss, S offset Holliday No. 2 Griffith. R.U.
Southern Minerals Corp. No. 1 Isensee, C. Land Sur. 404. Spdg. in.
Southern Minerals Corp. No. 2 Mastin, 125-ac. tr., G. Frank Sur. 416. Drlg. 330 ft.
Southern Minerals Corp. No. 5 Smith, Blk. 4, H. B. Sheppard Farm Lots. Sd. 4,856-66 ft.; comp. 387 B.P.D. on 5/16-in. ck.

Southern Minerals Corp. No. 6 Smith, Blk. 4, Sheppard Farm Lots. Cg. 4,386 ft.
Texon Drlg. Co. No. 2 Lingnau, 150 ft. N line, 112 ft. W line, 13.44-ac. tr., C. Land Sur. 404, M.I.M.
Texon Royalty Co. No. 1 McElroy, 115 ft. N line, 109 ft. W line, 40-ac tr. Gallagher Sur. Set csg. 4,407 ft.; W.O.C.; Sd. 4,412-15 ft.

Plymouth—San Patricio County

Humble O. & R. Co. No. 2 Bevly, 466 ft. N line, 315 ft. E line, Blk. 8, Sur. 35, T.D. of sd. 5,645 ft.; W.O.C.
Humble O. & R. Co. No. 3 Mayo, Tabor Sur. Drlg. sd. and clay 121 ft.
Plymouth Oil Co. No. 47-C Welder, 2,187 ft. S line, 1,433 ft. W line, sec. 49, D.S.T. 5,636-57 ft.; 2,000 ft. oil in 12 min.; set csg.; W.O.C.
Plymouth Oil Co. No. 48-C Welder, 1,213 ft. N line, 1,188 ft. E line, sec. 49, T.D. 5,502 ft.; set csg. 5,480 ft.; W.O.C.
Plymouth Oil Co. No. 49-C Welder, 331 ft. N line, 1,107 ft. W line, sec. 49, M.I.M.
Shell Pet. Corp. No. 2 Pullin, 705 ft. N line, 495 ft. E line lease, Blk. 4, 2nd Addn. Drk.
Sun Oil Co. No. 3 Edgar, 466 ft. E line, 446 ft. N line lse., Blk. 1, sec. 34, M.I. drk.
Sun Oil Co. No. 7 Hunt, 466 ft. S and E lines, Lot 5, sec. 34, Taft Farm Lands Subd. Drlg. 5,385 ft.
Sun Oil Co. No. 1 Jackson, 466 ft. N line, 315 ft. W line tr., E½ W½ sec. 35, J. Fessenden Sur. Loc.

Taft Field—San Patricio County

Cage Prod. Co. No. 2 Mayo, Tabor Sur. Drlg. 1,540 ft.

Margo—Starr County

Harter et al No. 2 Sanches, 150 ft. S and W lines, 39.72-ac. tr., Bh. 72, Porc. 72, W.O. T.D. 500 ft.; M.I.M.

Rio Grande City—Starr County

Fech Oil Co. No. 9 Frank Doyno, 150 ft. N and E lines, Blk. 4, Tr. 77-A, Porc. 81, R.U.
Sioux Oil Corp. No. 3 Frank Doyno, 150 ft. N and W lines, Blk. 3, Tr. 77-A, Porc. 81, M.I.M.

Samfordyce—Starr County

E. A. Graham No. 1 Santos Villareal, 26.48-ac. tr., Tr. 250, Porc. 38, Sd. 3,032-42 ft.; comp.; gasser; perf. 2,788-91.5 ft.
Porter & Grimes No. 2 Garcia Land & Livestock Co., Lot 1, W½, Porc. 100 Drlg. sh. 1,800 ft.
Skelly Oil Co. No. 3 Seabury, Tr. 256, Porc. 38, Sd. 2,820-26 ft.; comp. 20 B. P.H. on ¼-in. ck.
Sun Oil Co. No. 3 Chapatola, 660 ft. N. 330 ft. W No. 2, Porc. 99, Drlg. 3,485 ft.

Aviator—Webb County

Five Spot Drlg. Co. No. 1 Brunl, Blk. 44, Albercas grant. Tstg. sd. 1,704-06 ft.

Lopez—Webb County

C. H. Lewis No. 6 Lopez, sec. 110, Comp. 268 B.P.D. on ¼-in. ck.; sd. 2,894-2,928 ft.
Magnolia Pet. Co. No. 1 Peal, 1,669 ft. NE of NE cor. of Sur. 73, 330 ft. W line, Sur. 383, Sd. 2,114-19 ft.; L. 2,119-21 ft.; D.S.T., 11 min.; 425 ft. oil on ⅝-in. ck.; rng. csg.
Mills Bennett Prod. Co. No. 8 Maria Lopez, 990 ft. N line, 330 ft. W line, E½, Share 12, Sur. 112, Comp. 580 B.P.D. on ½-in. ck.; sd. 2,229-50 ft.
Mortimer & Springer No. 11-B Maria Lopez, 660 ft. N, Sur. 112, Set csg. on sd.; W.O.C.
Superior Oil Co. No. 7-A Billings, 990 ft. S line, 2,310 ft. E line, Sur. 113, Sd. 2,207-35 ft.; comp.; no gauge.

O'Hern—Webb County

Magnolia Pet. Co. No. 15 Seacord-Benavides, C Blk. 458, Hale Subd. T.D. 2,915 ft.; comp. est. 50 B.P.D.
Magnolia Pet. Co. No. 16 Seacord-Benavides, C Blk. 495, Hale Subd. Stdg. with 25 ft. oil in hole; W.O. orders; T.D. 2,-923 ft.
J. J. O'Hern No 2-A Benavides, Hale Subd., Arispe grant. Drlg. 1,327 ft.
Otis Phillips No. 1-B Benavides, Blk. 134, Hale Subd. S.D. 3,250 ft.
T. S. Reed No. 4 Brennan-Benavides, Blk. 364, Hale Subd. Cg. 2,700 ft.
Texla Oil Corp. No. 2-D Benavides, Hale Subd., Arispe grant. Sd. 2,864-88 ft.; comp. 15 B.P.H.
Texla Oil Corp. No. 3-D S. Benavides, cen. Blk. 368, Hale Subd. Comp. 120 B.P.D. on ¼-in. ck.; sd. 2,877-2,906 ft.

Escobas—Zapata County

B. W. Roscoe No. 4 Bustamante, Share 33, Sd. 1,380-88 ft.; S.D.; T.D. 1,388 ft.
Texas Co. No. 39 Whitehead, Cerrito Blanco grant, T.D. 1,780 ft.; P.B. 1,292 ft.; drlg. plugs.
R. A. Mitchell No. 1 Bustamente, Share 32, Comitas gr. Drlg. 317 ft.
S.R.C. Oil Co. No. 11-E Trevino Sur. 66, Comp.; 25 B.P.D.; T.D. 1,279 ft.

Haynes—Zapata County

Geo. Buck No. 1 Haynes, Blk. 4, Alice D. Haynes Subd. Drlg. 766 ft.
Upchurch & McKay No. 1 Haynes, Blk. 7, Haynes Subd. T.D. 987 ft.; S.D.
Upchurch & McKay No. 2 Haynes, 30-ac. lse., sec. 7, Haynes Subd. Tstg. 881 ft.

WEST TEXAS WILDCATS

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. T.D. 2,000 ft.; installed new engine.

Borden County

John I. Moore No. 1 Blank, SE cor. sec. 20, Blk. 33, Twp. 4n, T.&P. Sur. Loc.

Cochran County

Cascade and Honolulu Oil Corp. No. 1 E. B. Duggan, cen. Labour 13, League 55, Oldham County Sch. Land. T.D. 232 ft.

Crane County

Clark et al No. 1 A. P. Jordan, sec. 12 Blk. B-22, P.S.L. Sur. Machine.
Gulf Oil Corp. No. 2 W. N. Waddell, sec. 18, Blk. B-21, Drlg. 3,341 ft.
Gulf Oil Corp. No. 2 Tubbs, sec. 12, Blk. 27-B. Drlg. 2,847 ft.
Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21, Loc.
Humble O. & R. Co. No. 2 Tubbs, sec. 11 Blk. B-27, S.D. 4,375 ft.; made 1,025 B.P.D.
Loffland Bros. No. 2 Tubbs, sec. 9, B-27, R.U. standard tools.
J. E. Lucas No. 1 Pershing, 3,960 ft. N and 1,320 ft. W, sec. 1, Blk. 31, H.&T.C. R.U. mch.
Moore Bros. No. 1 Barnsley, sec. 43, Blk. 22, P.S.L. Sur. Drlg. 4,700 ft.
Rider et al No. 1 Thaxton, sec. 2, W. L. Wilkenson Sur. Spudded and S.D.
Sinclair Prairie Oil Co. et al No. 1 Tubbs sec. 3, Blk. B-27, S.D. 4,469 ft.; tstg.

Crockett County

John I. Moore No. 1 A. C. Hoover, sec. 4, Blk. FF, B.&B. Sur. S.D. 1,255 ft.

Ector County

W. Dunning, Jr., No. 1 H. E. Cummins, sec. 33, Blk. 45, Twp. 1n, T.&P. Sur T.P. 4,247 ft.; T.D. 4,252 ft.; 406 B.P.D.
Grisham-Hunter Corp. No. 1 R. B. Cowden, C of SE¼, sec. 10, Blk. 45, Twp. 2n, T.&P. Sur. T.D. 139 ft.; to set csg.

Fisher County

Ellis & Eubanks No. 1 C. C. Wourland, sec. 15, Blk. 21, T.&P. Sur. Loc.
Forest Dev. Co. No. 1 A. M. Dry, sec. 108, Blk. 2, H.&T.C. Sur. S.D. 3,500 ft.

Gaines County

Landreth Prod. Co. No. 1 Kirk, sec 37 A-21. Slight show 4,540 ft.; cg. 4,630 ft.

Garza County

Brown Eagle Oil Co. No. 1 Sullivan, sec. 3, Blk. 5, K. Aycock Sur. Drlg. 625 ft.
M. L. Richards No. 1 U. U. Post est., sec. 1,232, D. L. Phillips Sur. Machine.

Howard County

D. C. Reed et al No. 1 Walter Pike, sec. 24, Blk. 33, Twp. 1n, T.&P. Sur. Drlg. 3,200 ft.

Hudspeth County

Costelle Oil Corp. No. 1 Costelle, SW cor. sec. 36, Blk. 70, elev. 4,075 ft. Loc.
Hayman Krupp Oil & Land Co. No. 1 Thaxton, sec. 34, Blk. 74, Twp. 6, T. & P. Sur. T.D. 1,131 ft.; U.R. csg.

Jeff Davis County

C. M. Joiner No. 1 Jones & Coffield, sec. 8, Blk. 3, H.&T.C. Sur. Drlg. 4,091 ft.

Jones County

Gyr & Davis No. 1 Clyburn, E. H. Millard Sur., Sub. 27. Spudded.
Parker No. 1 C. L. Brown, sec. 9, Blk. 2, T.&N.O. Sur. T.D. 2,058 ft.; U.R. csg.

Kimble County

Wilcox O. & G. Co. No. 1 H. Spiller, 330 ft. N and W, sec. 15, Brooks & Burleson Sur., Abst. 80. Drk.

Loving County

Evans No. 1 Johnson. Wtr. shut-off; T.D. 3,214 ft.

Menard County

Wilcox O. & G. Co. No. 1 Merchenson, sec. 158, E.L.R.R. Sur., Abst. 1,840, 8 miles S of Menard. Drlg. 3,200 ft.

Pecos County

Dobbs Oil Co. No. 1 Rooney, sec. 12, Blk. 125, T.&St.L. Sur. Fsg. 2,060 ft.
S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 922 ft.

Presidio County

Linderman Bros. Oil Corp. No. 1 J. R. Bledsoe & Badgley, sec. 15, Blk. 351, G.C.&S.F. R.R. Co. Sur., 2½ mil. NE of Presidio. T.D. 1,635 ft.

Schleicher County

Cardinal Oil Co. et al No. 1 J. A. Whitten, sec. 35, Blk. LL, T.C.R.R. Sur. S.D. 4,702 ft.
Mangus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; S.G. 4,350 ft.; gas sd. 4,956-58 ft.; S.D. 6,223 ft.

Taylor County

Geo. Callahan No. 1 S. J. Writer. Drlg. 1,111 ft.

Terry County

J. A. Estes No. 1 F. B. Graham, sec. 23, Blk. T, O.&W.R.R. Material.

Tom Green County

Spinner No. 1 Reed, Sub. 39, Mason & Perry Sur. S.D. 2,220 ft.

Ward County

Gulf Oil Corp. No. 1 W. A. Estes, sec. 38, Blk. 34, H.&T.C. Sur. Drlg. 2,325 ft.
P. Moran et al No. 1 Reynolds, sec. 12, Blk. 5, H.&T.C. Sur. S.D. 300 ft.
Peck et al No. 2 Reynolds, sec. 12, Blk. 32, H.&T.C. Sur. S.D. 890 ft.
Superior Oil Co. No. 1 J. H. Hughes, sec 67, Blk. 34, H.&T.C. Sur. S.D. 3,120 ft.

Winkler County

Herbert Oil Co. No. 1 I. Hendrick, sec. 14, Blk. 26, S.D. 3,021 ft.
Humble O. & R. Co. No. 2-C Walton, sec. 34, Blk. 74, P.S.L. Sur. T.D. 2,765 ft.; R.U.R.
Fred Hyer No. 1 Evans, sec. 8, Blk. 56 T.D. 4,437 ft.; to set csg.
Joiner No. 1 Evans, sec. 46, Blk. 73, P.S.L. Sur. S.D. 3,335 ft.; U.R. csg.
Navarro Oil Co. No. 1 Drane, tr., 1,101 ft. N and 767 ft. E, sec. 35, Blk. 26, P.S.L. Loc.
Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. Spudded.

Yoakum County

Bahan et al No. 1 Henard, C SW ¼, sec. 367, Blk. D, J. H. Gibson Sur. T.D. 2,-390 ft.; set pipe.
Stogner et al No. 1 Roosevelt, 2,230 ft. from N and 330 ft. from E, sec. 215 Blk. D, John H. Gibson Sur. T.D. 140 ft.

TEX. PANHANDLE WILDCATS

Gray County

Bell O. & G. Co. No. 2 Furneaux, sec. 102, Blk. B-2, H.&G.N. Sur. Drk.
K. Kinsey No. 1 Stephens, sec. 187, Blk. sec. 546, Blk. H, B-2, H.&G.N. Sur. T.D. 2,475 feet, fishing tools.
J. R. Phillips No. 1 W. H. Taylor, 280 ft. from N and 374 ft. from E lines of W½ of sec. 9, Blk. B-2, H.&G.N. Sur. Drlg. 60 ft.
Warner Oil Co. No. 1 Parker, 330 ft. from S and W lines of NW¼ of sec. 18, Blk. H. A. Wallace Sur. T.D. 2,245 ft.; R.U. S.T.

Hartley County

O. V. Beck et al No. 1-A Matador Ranch, sec. 20, Blk. 22, C.S.S. Sur. Pipe stuck 4,600 ft. and S.D.

Hutchinson County

Harry Stekall No. 1 Erle Thompson, sec. 5, Blk. M-18, D.P. Sur. Drlg. 2,080 ft.

Moore County

Moran Bros. No. 1 Lucky Tiger Oil Co., 330 ft. from S and E lines, SE¼ sec. 5, Blk. 1, T.D. Sur. Drlg. by 8¼-in. csg. at 2,744 ft.
Shamrock O. & G. Co. No. 1 Brumley, 1,320 ft. from S and 660 ft. from E lines of W½ of sec. 398, Blk. 44, H.&T.C. Sur. Cellar.

Wheeler County

Allender & Heare No. 1 Harvey, sec. 67 Blk. 13, H.&G.N. Sur. S.D. 2,193 ft.; H.F.W.
Johnston et al No. 1 Rabo, sec. 105, Blk. 23, H.&G.N. Sur. Spudded and S.D.
Phillips Pet. Co. No. 1 Porter, sec. 35, Blk. A-8, H.&G.N. Sur. T.D. 3,735 ft.; Underreaming 8¼-in. csg.

E. C. TEXAS WILDCATS

Anderson County

Gulf Oil Corp No. 1 Ross, 1,770 ft. from SW and 1,370 ft. from NW of Robt. Irwin Sur. T.D. 5,476 ft.; elev. 487 ft.; S.D.

Angelina County

G. E. Ginter No. 1 Martin Wagon Works E. Evans Sur., 2 mi. W of Homer. Spdd.
Bill La Rue No. 1 Cameron Lbr. Co., I. Ray Sur. Top sd. 1,340 ft.; S.D. 1,354 ft.
Ginter et al No. 1 Cope hrs., Jose Moron Sur., 3 mi. E of Dibol. Cg. 2,025 ft.

Bowie County

Westmount Oil Co. No. 1 R. N. Phillips, G. N. Hancock Sur., 10 mi. N of Oak Grove. Top Georgetown 1,533 ft.; drlg. 1,840 ft.

Cherokee County

T. J. Wood et al No. 1 Huggins, L. Jordan Sur., 2 mi. SW of discovery, or 7 mi. SW of Rusk. Drlg. plug. 470 ft.

Fannin County

Carter, Trustee, No. 1 Galloway. Georgetown L. 1,697-2,203 ft.; top Georgetown 2,203 ft.; S.D. 2,225 ft.

Franklin County

E. Bateman et al No. 1-E Phillips, 150 ft. from N and W of N 38½ acres of 77-ac. tract, Wm. Birdwell Sur., 4 mi. SW Talco. M.I.R.
Lucey Pet. Co. No. 2 A. W. Crawford, O. James Sur. Pecan Gap 1,597-1,778 ft.; top Georgetown 3,468 ft.; drlg. 3,629 ft.

Grayson County

Olson Drlg. Co. No. 1 Southwestern Life Ins. Co., J. C. Jamison Sur., 4 miles NW of Denison. Elev. 767 ft. Top Viola 4,-901 ft.; T.D. 5,890 ft.; P.B. to 5,300 ft.; S.D. 5,538 ft.

Henderson County

McDougal et al No. 1 E. Price, M. Mathews Sur., 4 mi. S of Trinidad. Rig.

Hopkins County

D. Hager et al No. 1 J. Worshorn, 852 ft. from E and 90 ft. from N of 300-ac., A. Whitmore Sur. Loc.

Kaufman County

Lester & Duffield No. 1 D. C. Baron, J. T. Taylor Sur., 3 mi. NE of Elmo. Drlg. 495 ft.
Scott & Woodside No. 1 Robinson, A. Cherino Sur., 2 mi. W of Scurry. Austin chalk 1,200 ft.; S.D. 2,135 ft.

Limestone County

E. H. Daugherty No. 1 S. Welch, A. 3,158 ft.; run liner.
C. L. Lytle No. 1 J. L. Thompson, P. Varella Sur., Mexia field. T.D. 6,054 ft.; P.B. 5,880 ft.; S.D. for csg.

Navarro County

E. A. Thomason No. 2 Estes Bros., Wm. Gilbert Sur., 1,000 ft. E of No. 1, 1 mi. E of Roane. Base Austin 2,131 ft.; cg. 2,725 ft.

Red River County

Abercrombie-Harrison No. 1 Temple Lbr. Co., D. D. Bruton Sur., 10 mi. NE of Clarksville. Base Georgetown 1,020 ft.; drlg. 2,100 ft.
Williams et al No. 1 L. and O. Roberts, James Bankston Sur., 2 miles NE of Annona. Elev. 396 ft.; S.D. 725 ft.

Rusk County

D'Arman et al No. 1 R. E. Talliferro, T. L. Wilkshire, 5 mi. W of Henderson. Drlg. 3,590 ft.
McCallum et al No. 1 E. C. Gary, John Piburn Sur., 5 miles S of Henderson Elev. 338 ft.; S.D. 3,440 ft.
Pure Oil Co. No. 1 W. H. Faulkner, Wm. Elliott Sur., S of Concord. Elev. 563 ft.; T.D. 6,297 ft.; to retest.

Titus County

Jule Alford No. 2 Fry, I. P. Stern Sur., 1,-313 ft. N of No. 1, R.U.
Dean & Atkisson No. 1 A. Cornelius, 150 ft. N and 90 ft. W line of 3-ac. tr., Delgado Sur. Rig.
Hollingsworth Drlg. Co. No. 1 A. O. Brown, cen. Lot 1, Blk. 41, Delgado Sur. R.U.
Jones & Shelburne No. 1 Hazelwood, Stern Sur. Drlg. 1,702 ft.
B. C. Morrison No. 1 L. Sanders, C of Lot 1, Blk. 30, Talco townsite, S.D. 100 ft.
Nivia Oil Co. No. 1 J. N. Kelley, J. Holman Sur. Drlg. 3,175 ft.
Ownby Drlg. Co. et al No. 1 F. Jones, C Lot 6, Blk. 16, M. V. Delgado Sur. Pecan Gap 1,620-1,785 ft.; elev. 361 ft.; cut fault 4,000 ft.; cg. 4,340 ft.; 13 ft. sat. sd.
Saunders et al No. 1 Talco School Dist., I. P. Stern Sur. Austin 2,451-81 ft.; Georgetown 3,440 ft.; top sand 4,185 ft.; testing 4,340 ft.
Tide Water Oil Co. No. 1 Carr, M. V. Delgado Sur. Elev. 358 ft.; base Pecan 1,-773 ft.; drlg. 3,560 ft.

Upshur County

J. K. Wadley No. 1-C E. L. Gillespie, 680 ft. from NW and 330 ft. from S line in R. Meredith Sur., S of Glennwood. Drlg. 2,259 ft.

EAST TEXAS

(Border Counties)

Cass County

American Liberty Oil Co. No. 3 Maxie, John Collom Sur. Comp.; 26 B.P.H.; ¾-in. tbg. ch.
American Liberty Oil Co. No. 4 Maxie, John Collum Sur. Drlg. 5,985 ft.
American Liberty Oil Co. No. 5 Maxie, 660 ft. NW of No. 2 and 660 ft. NE of No. 3 Maxie, John Collom Sur. Loc.
American Liberty Oil Co. No. 6 Maxie, 330 ft. S and 990 ft. W, NE cor. of lse., John Collom Sur. Loc.
American Liberty Oil Co. No. 7 Maxie, 330 ft. from N and E lines of lse., John Collom Sur. Loc.
W. F. Lacy et al No. 1 Spell, J. H. Rives Sur. Loc.
Marathon Oil Co. No. 1 R. P. Willis, S.F. I.W. Sur. 16-in. at 234 ft.; drlg. 650 ft.
McElvane et al No. 1 Beckett, John Collom Sur. Comp. T.D. 6,008 ft.; flowed 43 B.P.H. ½-in. tub. ck.
R. W. Norton No. 1 W. M. Hall, 330 ft. S and 697 ft. W, NE cor. 100 acs., W. Robinson Sur. No. 907. 13-in. 239 ft.; drlg. 1,120 ft.
W. Norton No. 1 A. S. Hall, 334 ft. S and 2,091 ft. E, NW cor. 160 acs., James Young Sur. Drlg. 2,836 ft.; 6-in. at 2,071 ft.
R. W. Norton No. 2 Haywood, Priscilla Evans Sur. Cmtd. 6⅝-in. at 6,032 ft.; Comp. T.D. 6,049 ft.; 620 bbls. in 16 hrs. Flowed through ¼-in. tub. ck.
R. W. Norton No. 2 Mary Rives, John Collom Sur. Cg. 6,003 ft.
Showers & Moncrief Co. No. 1 Stallcup, J. Davenport Sur. 16-in. at 224 ft.; 10-in. at 2,042 ft. T.D.
Superior Oil Co. No. 1 Stallcup, 330 ft. N of S line and middle E and W of 20 ac., Robert Trammel Sur. Drlg. 2,754 ft.; 16-in. 234 ft.; 10-in. 2,162 ft.
Superior Oil Co. No. 2 Stallcup, 900 ft. from S line and middle E and W of 20 acs., Robert Trammel Sur. Loc.
Texas Co. No. 1 E. E. Hall, James Young Sur. T.D. 6,105 ft.; Comp.; flowed 70 B.P.H., 1-in. csg. ck.; T.D. 6,115 ft.
Texas Co. No. 3 E. E. Hall, James Young Sur. Loc.
United Gas Pub. Ser. Co. No. 1 Eva Fields, John Collom Sur. Comp.; T.D. 6,034 ft.; flowed 44 B.P.H., ½-in. tub. ck.
United Gas Pub. Ser. Co. No. 2 Eva Fields, John Collom Sur. 7-in. 6,003 ft.; testing.
United Gas Pub. Ser. Co. No. 1 L. J. Cunningham, W. Robinson Sur. Drlg. 3,555 ft.; 9⅝-in. at 2,272 ft.
United No. 3 Fields, J. Collom Sur. Comp. T.D. 6,052 ft.; flowed 20 B.P.H. ½-in. tub. ck.
United No. 1 Simpson, 660 ft. N of Texas Co. No. 1 Hall, J. Young Sur. T.D. 6,077 ft. Cg.

United Gas Pub. Ser. Co. No. 2 F. S. Simpson, 2,091 ft. E and 334 ft. N, SW cor. of 160 ac., James Young Sur. Set 13-in. 317 ft.
United No. 1 J. J. Stewart, J. Collum Sur. Comp.; T.D. 6,010 ft.; flowed 49 B.P.H., ½-in. tub. ck.
United No. 1-A E. Tyson Unit, J. H. Rives Sur. Loc.

Harrison County

R. C. Payne et al No. 1 Lowery, H. D. Spain Sur. P.B. to 3,524 ft.

Marion County

Ed S. Holman No. 1 Henderson, R. Bennington Sur. P.B. to 2,442 ft.

Panola County

George Hudson et al No. 1 J. F. Nail, C. McGeary Sur. Set 8-in. 40 ft.; fsg. for core bbl. at 2,345 ft.
Geo. Le Grand No. 1 P. J. Wardleigh, A. Thompson Sur. Set 10-in. 62 ft.

N. C. TEXAS WILDCATS

Archer County

Continental Oil Co. No. 1 Claud Cowan, Blk. 6, J.C.S.L. O.S. 1,003-10 ft.; tstd. 22 bbls. in 11 hrs.
Continental Oil Co. No. 1 Kinder, sec. 58, Blk. 5, C.&P. Subd. R.U.R.
Continental No. 1 Turbeville, C sec. 3, J.C. S.L. Drlg. 720 ft.
Deep Oil Dev. et al No. 1 Wilson, sec. 76, A.T.N.C. lands. W.O.C. 2,226-34 ft.; P.B. to S.O. wtr.
W. T. Hutcheson, Jr., No. 1 Wilson-C, Blk. 121, A.T.N.C.L. Fsg. 1,161 ft.
Kemp & Waggoner No. 1 Wilson, Blk. 75, A.T.N.C.L. Drlg. 610 ft.
M. T. McLaughlin No. 1 Lemons, A. Nunley A-320. Loc.
J. T. Miller No. 1 Rogers, T.E.&L. 2,407. Loc.
Perkins & Cullum No. 1 Young, sec. 37, Harris. Drlg. 2,677 ft.
D. L. Pickering No. 1 J. D. Bell, Lot 5, C.&P., Blk. 5. Drlg. 360 ft.
Regal Oil Co. No. 1 Wilson-A, E. Hall A-682. Spudding.
Riner & Massee No. 1 Wilson, Blk. 118, A.T.N.C.L. Sd. 2,198-2,201 ft.; bailed dry; S.D.O.
Shappell Oil Co. No. 1 C. E. Carter, Lot 37, C.&P., Blk. 5. Drlg. 1,110 ft.

Clay County

Diamond-"E," Inc. No. 1 L. S. Wright, T.E.&L. 2632. Spudded.

Cooke County

Jas. L. Anderson No. 1 Bruhlmeyer, H. Strong A-930. S.S.O. 2,032-42 ft.; tstg.
Anderson & Kerr No. 1 A. Wilson, Strong Sur. A-930. S.D.O. 2,390 ft.
J. G. Beard et al No. 1 R. S. Rose, T. E. Hardeway A-464. Drlg.
Cain & Chandler No. 1 J. B. Burch, J. McWilliams Sur. A-658. S.D. 1,065 ft.
Fain-McGaha No. 1 J. W. Mount, sec. 9, S.P.R.R. Drlg.
J. L. Flowers No. 1 V. E. Bush, M. G. Carrico A-200. Drlg. 1,340 ft.
Joe Grazier No. 1 E. P. Bell, F. J. Lindheimer Sur. A-571. Loc.
Hardin Oil Co. No. 1 J. G. Bonner, J. Lindheimer Sur. S.D.O. 2,308 ft.
B. H. Hilburn No. 1 Hugan, A. Myers Sur No. A-640. Drlg. 1,366 ft.
Lanier et al No. 1 Thetford, S.P.R.R. Sur. A-987. S.D.O. 1,835 ft.
F. W. Merrick, Inc., No. 1 L. P. Bell, J. S Martin Sur. A-699. H.F.W.; S.D.O. 2,-317 ft.
Nair Oil Corp. No. 1 W. G. England, E. G. Spencer. Loc.
N. Newburn No. 1 Dotson, Wm. Campbell Sur. A-238. S.D.O. 1,710 ft.
Nixon Bros. No. 1 W. R. Harper, W. W. Pettit Sur. A-812. Material.
E. R. Robison No. 1 J. Krebs, H. Wilkey Sur. A-1,090. Drlg. 778 ft.
W. F. Russell No. 1 Belle Payne, Marshall University Sur. A-620. Drlg. 1,743 ft.
Seitz, Comegys & Seitz No. 1 Field & Bowers, L. Raney Sur. A-878. R.U.R.
Sunray Oil Co. et al No. 1-A A. C. McCall, W. H. White Sur. A-1,134. T.D. 4,720 ft.; drlg. 755 ft. outside sur. pipe.
B. F. Thompson No. 1 F. Trubenbach, P. Davidson Sur. A-337. S.D. 765 ft.
Whitehead et al No. 1 W. Reed, F. Earthman Sur. A-349. S.D.O. 1,230 ft.
Woodbine Oil Co. No. 1 Potter & Potter, J. Gorham Sur. S.D. 997 ft.

Denton County

Oil Finance Corp. No. 1 J. S. Gambill, T. Burress Sur. S.D. 1,042 ft.
C. S. Hoad No. 1 Travelers Insurance Co., Wm. A. Thompson Sur. A-1,238. S.D.O. 1,582 ft.
Manning & Moore No. 1 E. L. Darnell, I. Walters Sur. A-1,329. Drlg. 1,350 ft.

Foard County

Humble O. & R. Co. No. 1 Burnett, sec. 16, Blk. X, S.P.R.R. Sur. Drlg. 3,350 ft.

Jack County

Bowden et al No. 1 Buck Est., D. F. Mallard A-925. Loc.
S. B. Edwards No. 1 Bryson, J. Hughson Sur. A-256. R.U.R.
Engineers Oil Co. No. 1 Cooke, J. Young Sur. O.S. 2,950-60 ft.; tstg. and C.O.
W. H. Hammon No. 1 G. E. Evett, H. Plaster Sur. S.D. 750 ft.
W. H. Hammon et al No. 1 F. H. Rhodes, R. N. Erwin Sur. A-1,378. O.S. 2,433-47 ft.; 600 ft. oil in 30 min.; tstg. and P.O.P.
Harper Pet. Corp. No. 1 Van Hooser, J. W. Morrow Sur. A-1,926. U.R. 5-in. 2,051 ft.
C. Kadane No. 1 E. F. Smith, S.P.R.R. Sur. A-552. Drlg. 1,535 ft.
Sterntex Oil Co. No. 1 Boyd, J. N. Wright Sur. A-898. S.D. 3,340 ft.

Montague County

Grisso Royalty Co. No. 1 Jordon, T. R. Jackson A-394. Loc.; 4,000-ft. test.
E. T. Hart No. 1 W. L. Davis, sec. 13, Jack Co. School Lds. Drlg.
Jim Seeds et al No. 1 Coombs, sec. 58, M.E.P.&P. Sur. Drlg. 1,951 ft.
J. M. Holmes No. 1 H. D. Field, sec. 55, M.E.P.&P. Sur. A-528. S.D.
A. H. Rosenburger No. 1 C. O. Meador, J. English Sur. A-214. Drlg. 2,135 ft.
Southwest Pet. Co. No. 1 W. S. Petty, S. A. Southerlin Sur. A-992. Spud. and S.D.

Wichita County

Pete Harmon et al No. 1 J. B. Jamison, J. Deck Sur. A-52. Drlg. 1,302 ft.
J. M. Morton No. 1 Housler, J. C. Pike, A-509. Drlg.
Reno Oil Co. No. 1 W. T. Waggoner-D, sec. 1, S.&M. Sur. A-393. Fsg. 1,576 ft.

Wilbarger County

Franklin Oil Co. No. 1 D. G. Feller, et al, sec. 108, Blk. 14, H.&T.C. Sur. S.D. 1,-570 ft.
Lane & Simons No. 1 Allison, sec. 48, H. &T.C. Sur., Blk. 12. Drlg. 3,160 ft.
Pettit et al No. 1 Castleberry, sec. 67, H. &T.C. Sur., Blk. 14. Drlg. 150 ft.
Regal Oil Co. No. 1 Waggoner, sec. 65, H.&T.C., Blk. 14. Loc.
Smith No. 1 S. A. Dill et al, sec. 32, Blk. 14, H.&T.C. Sur. S.D. 2,090 ft.
Webb & Rogers No. 1 Mrs. D. Coffee, sec. 44, H.&T.C., Blk. 15. Spudded.
L. Webb No. 1 J. L. McCrary, sec. 64, H.& T.C. Sur., Blk. 14. S.D.O. 2,100 ft.
Wheeler & Brashear No. 1 Waggoner-B. Drlg. 1,200 ft.

Young County

Associated Developers No. 1 Terrell, T.E. &L., 285. Spudded.
Art Cox No. 1 J. T. Rogers, J. Ray D-1,628, Loc.; 4,500-ft. test.
Curtis & Bracken No. 1 Allar Co., H Garmes Sur. A-104. Fsg.; T.D. 4,400 ft.
Hinson Tidwell No. 1 Thompson. Drlg. 2,134 ft.
D. M. Knox No. 5 Burkett, T.E.&L. 3,-412. R.U.S.T.
Chas. Knox No. 2 Worsham, T.E.&L. 3,-407. Loc.
C. D. Neff et al No. 1 W. A. Dennis, C. F. Bass Sur. T.D. 3,692 ft.; C.O.
Pitzer West et al No. 1 W. R. Dollins, T.E. &L. Sur. 615. R.U.
Pitzer & West No. 1 Harrell, J. Daily Sur. A-78. T.D. 4,600 ft.; C.O.
Rathke Oil Co. No. 1 O. W. Hill, J. C. Graham A-122. Drlg.
Rathke Oil Co. No. 2 J. T. Rogers, S. H. Graham Sur. A-124. Fsg. 4,709 ft.
Texas Co. No. 1 Stephens, T.E.&L. 1,985. Drlg. 3,605 ft.
Yorktex Pet. Co. No. 1 F. G. Burnett, G W. Hill, A-151. Drlg.

Gas Field Operations in N. Y.-Penn.

COUDERSPORT, Pa., June 8.—There was one good completion in the New York Oris'any gas fields in the week ending June 5. This was Schrack and others' test on the Markey estate property, Willing Township, Allegany County, which gauged 30,000,000 feet a day. Initial rock pressure was 1,695 pounds. Top of the sand was found at 4,554 feet, and total depth is 4,562 feet. In Amity Township, same county, Wittmer Oil & Gas Co. got a dry hole on the Raymond Cline farm, and abandoned at 3,675 feet.

New York Operations

G. L. Cabot had a crooked hole at 227 feet on the Leo Harder farm, Alma Township, Allegany County. Natural Gas Producers was shut down at 560 feet on the Eddy farm, Rome Township, Oneida County. Belmont Quadrangle Development Co. was drilling at 3,455 feet on the J. A. Brown farm, Leon Township, Cattaraugus County. Farriman and others was drilling at 2,475 feet on the Cash Willis farm, Howard Township, Steuben County. Carpenter and others was drilling at 2,610 feet on the C. Matteon farm, Avoca Township, same county. Ross and others was shut down at 436 feet on the G. Wright farm, Portland Township, Chautauqua County. Southwestern Development Co. was drilling at 1,210 feet on the E. G. Smith farm, Hanover Township, same county. Schrack and others was moving in on the D. J. Crane farm, Alma Township, Allegany County.

Pennsylvania Operations

New York State Natural Gas Co. cased and cemented at 4,198 feet on the D. Rapan farm, Genessee Township, Potter County. G. L. Cabot was drilling at 380 feet on the Theodore Cobb farm, same township. Sylvania Corp. was drilling at 3,470 feet on the George McCutcheon farm, Harrison Township, same county. New York State was drilling at 4,020 feet on the F. Whitney farm, Bingham Township, same county. Sylvania was idle at its location on the J. Steadman farm, Genesee Township, same county. G. L. Cabot was building a rig on the Guy Thompson farm, same township. Potter Development Co. was drilling at 200 feet on the Crawford estate property, Keating Township, same county.

H. C. Drilling Co. was drilling at 1,150 feet on the Lesser & Louner farm, Kinzua Township, Warren County. Potter Development Co. was moving in on the J. Spetz farm, Pittsfield Township, same county. Cowanesque Gas Co. was drilling at 3,985 feet on the George Stebbins farm, Clymer Township, Tioga County. New York State was drilling at 2,305 feet on the Otto Burnside farm, same township. G. L. Cabot was drilling at 1,715 feet on the J. L. Lattimer farm, same township. Shoop and others staked a location on the H. Gee farm, same township.

Rocky Mountain Runs

Estimated daily average production in the Rocky Mountain fields and southeast New Mexico for the week ending June 6 follows:

WYOMING	
Salt Creek	16,630
Big Muddy	1,540
Badger Basin	40
Byron	830
Dallas Derby	570
Dutton Creek	60
Elk Basin	340
Ferris	20
Frannie	1,800
Grass Creek	720
Hamilton Dome	1,480
Hidden Dome	90
Hudson	280
LaBarge	1,190
Lance Creek	4,100
Lost Soldier	1,530
Midway	60
Oregon Basin	1,750
Osage	800
Pilot Butte	30
Quealy Dome	120
Rock River	1,080
Poison Spider	160
Teapot	20
Warm Springs	50
Total Wyoming	35,290
MONTANA	
Buckley-Border	220
Cat Creek	750
Cut Bank	9,000
Dry Creek	1,720
Kevin-Sunburst	4,500
Lake Basin	40
Pondera	2,200
Total Montana	18,430
COLORADO	
Florence	220
Ft. Collins & Wellington	350
Iles Dome	3,110
Moffat	470
Orchard	70
Rangely	70
Tow Creek	190
Total Colorado	4,480
NEW MEXICO	
Artesia	650
Cooper Area	8,150
Eunice Area	17,960
Hobbs	26,340
Hogback	200
Jal	3,110
Lea Area	1,000
Maljamar	1,930
Monument	6,480
Rattlesnake	690
Table Mesa	80
Total New Mexico	66,590
Total all fields	124,790

The Last Word—

Deep Well Drilling

By Walter H. Jeffery

816 pages; 425 illustrations, including 12 large folded insert derrick diagrams.

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The OIL and GAS JOURNAL
Tulsa, Oklahoma.

PERSONAL

W. M. PECK, Saginaw, Mich., assistant general manager, Michigan Producing Division, Pure Oil Company, graduated from the University of Missouri in 1923. He is a bachelor of arts and a bachelor of laws and before going with the Pure company in 1927 was a Missouri lawyer. Mr. Peck gained field experience in Oklahoma, Arkansas and Texas. He was transferred to Michigan in 1933 as assistant manager of the land department and was advanced to his present position in 1934. Mr. Peck read a paper on "Production and Production Problems in Michigan," before the A.P.I. eastern district division of production at the Pittsburgh meeting on June 5.

MR. and MRS. CAREY P. WEST, of Breckenridge, Tex., are making a pleasure trip to New York City. Mr. West is an oil operator in West Central Texas and is president of the Chemical Process Company.

G. W. FOLSOM, late of Troup, Tex., has been transferred to the Midland, Tex., offices of the Sinclair Prairie Oil Company.

J. F. BRANNAN, scout in the West Texas district for Pure Oil Company, with headquarters at Odessa, is convalescing from an appendectomy.

J. C. DALLAS, president of Roxana Petroleums, Ltd., of Calgary, Alberta, is spending a short time in Vancouver, British Columbia, on business.

NORMAN WHITTAL, of Vancouver, British Columbia, recently visited Lethbridge, Alberta, on his way home from a business trip to Toronto, Ontario.

PAT ADAMS, who was injured some months ago at the Terminal Oil Company well in southern Alberta, will spend a couple of months recuperating at Waterton Lakes Park, Alberta.

FRED BENNETT, formerly with the Merritt Tool Company at Kilgore, is now factory representative for the Patterson-Ballagh Corporation in Louisiana and Arkansas. Headquarters will be at Oil City, La.

C. H. STOUT, formerly superintendent of oil production in the East Texas district for the Arkansas Natural Gas Corporation, has been promoted to assistant superintendent in the general office at Shreveport, La.

MATT COLLINS and family have returned to Canada from the Trinidad fields, where Mr. Collins has spent three years. He will remain a few months in Petrolia looking after his oil interests, returning to Trinidad in the fall.

IRA WETHERILL, district manager of the National Supply Company, of Casper, Wyo., passed through Denver, Colo., on his way home after visiting the exposition at Tulsa.

J. B. FOSTER, president of the Signal Oil Company, Wichita, Kans., was injured in an automobile accident near Tonkawa, Okla., several days ago and was given treatment at a Tonkawa hospital. He was returning to Wichita from Tulsa at the time of the accident.

G. L. (JERRY) KNIGHT has been made division geologist of the Phillips Petroleum Company, following the transfer of TOM CRAIG to the economics department. Mr. Knight was formerly a professor of geology at the University of Kansas before coming with Phillips company a year ago.

CAPT. FRANK V. EATON, of Osage, Wyo., a veteran in the oil industry and a persistent booster for the Osage oil field, was in Denver, Colo., the past week meeting old friends and making new contacts. He is one of the Butler County, Pennsylvania, oil men who came west to grow up with the country.

W. W. FLEMING, president of the Marathon Oil Company, Tulsa, was a recent business visitor in Shreveport, La.

ALBERT B. STEVENS, professor of petroleum engineering at Texas A. & M. College, will serve on the Texas Railroad Commission staff during the summer.

J. A. BUCHER, an oil producer and one of the pioneers of the industry, and MRS. BUCHER have returned to their home at Bolivar, N. Y., after a stay in Tulsa which included the International Petroleum Exposition and visits among business associates and old friends.

MR. and MRS. FOREST DORN, of Bradford, Pa., announce the engagement of their daughter, MARTHA, to WILLIAM H. BIRD, son of MR. and MRS. J. W. BIRD, also of Bradford. The wedding of these young people will unite two of the most prominent oil families in the East.

HARRY NORRIS, who has been scouting for Sinclair Prairie Oil Company in the Oklahoma City area, is being transferred to Shreveport, La., where he is to open an office and have charge of the land and scouting departments in northern Louisiana. LEE ADAMS will be transferred from Shawnee, Okla., to take Mr. Norris' place at Oklahoma City, and HAYES SIMPSON, formerly with Stanolind Oil & Gas Company, joins the Sinclair Prairie staff at Shawnee.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Oklahoma and Kansas crude has been advanced 2 cents to 48 cents per barrel.

A well known Tulsa oil producer brags that he made the trip from Tulsa to Kansas City in his high powered automobile in 12 hours. The distance is 300 miles.

Robert George, Sr., widely known Eastern oil producer, dies in Bradford, Pa.

20 YEARS AGO

The Hill Oil and Gas Company, a Columbus, Ohio, concern, headed by William Carnell of that city, has sold its Cushing field, Oklahoma, holdings to Cosden Oil & Gas Company for $12,000,000. The present production is 30,000 barrels per day; 5,400 acres of leases are included in the deal.

Oil producers in the Humble, Texas, field, chip in and build a union church for the field forces and their families. Blaffer and Farish and the Texas, Humble and Invincible Oil Companies and others, donated.

Courtney E. Hazelton, a director of the Kendall Refining Company, dies in Bradford, Pa., age 39 years.

10 YEARS AGO

Kewanee Oil & Gas Company gets a 3,500-barrel well in the Bixby district, Tulsa County, Oklahoma, the deep sand variously known as Kiefer sand, Mounds sand and Wilcox sand, a pay discovered by Selby Oil & Gas Company, Laurel Oil & Gas Company, Eastern Oil Company and Gunsburg & Forman in a joint test in the Glenn pool in 1908.

The first showing of oil in McPherson County, Kansas, is found in section 29-18-2w, by E. B. Merriam and others at 2,330 feet.

Eugene Holman succeeds Wallace E. Pratt as chief geologist for Humble Oil & Refining Company, Mr. Pratt having been advanced to a place on the directorate of the company.

MR. and MRS. A. SUTHERLAND and child, of Negritos, Peru, are spending four months in Oil Springs and Petrolia, Ontario.

VAN ROBINSON, of Port Arthur, Tex., has been transferred by Atlantic Oil Producing Company, to its geological office in Shreveport, La.

CHARLES P. LINK, JR., late of Dallas, Tex., is the new superintendent of production for the Dr. J. H. Massie interests in the Wichita Falls district, and will have headquarters in that city.

RAY KETELSON, independent operator of Houston, Tex., was married on June 2 at Cisco, Tex. Mr. Ketelson was formerly land man for the Tide Water Oil Company in Kansas, Oklahoma and Texas.

S. RUSSELL (PAT) CASEY, formerly with W. W. Zingery at Houston, is now associated with the Speed Oil Company as subsurface geologist. A. S. GILL of Shreveport will take over the duties left vacant by Mr. Casey.

MR. and MRS. C. C. ICE welcomed the arrival of a 9-pound "roustabout" at their home in Monahans, Tex., on May 30. Mr. Ice is a well-known producer and drilling contractor in West Texas and New Mexico.

T. N. ST. HILL, vice president of Petroleum Rectifying Company of California, recently returned from a trip through the Gulf Coast and Mid Continent oil fields, accompanied by GORDON S. NEES, Texas district sales representative for the company. From the Gulf Coast Mr. St. Hill continued on a tour of various oil districts as far north as Michigan.

PARAGRAPHS

GEORGE LAW, of Denver, Colo., district engineer for the U. S. Geological Survey, has returned from Tulsa and the exposition.

A. C. RUBEL, who has been manager of field operations of the Union Oil Company for several years, has been appointed director of production succeeding FRANK F. HILL, who has been placed in charge of all lands and leases outside of California.

ROY H. HORNIDGE, of the Union Oil Company, was elected president of the Los Angeles Petroleum Accountants Society at the annual election of officers. Others elected were: R. L. MINKLER, of the General Petroleum, first vice president; D. S. KILGORE, of the California Oil and Gas Association, second vice president; and L. A. WILLIFORD, of the Macmillan Petroleum Company, secretary-treasurer.

EUGENE G. LEONARDON, vice president of the Schlumberger Well Surveying Corporation, will leave Houston, Tex., on June 12 for a business trip and vacation to Europe. During his visit abroad, Mr. Leonardon expects to spend part of his time at the headquarters of the Schlumberger organization in Paris, France, studying the new lines of activity of the parent company and the application of electrical logging methods in foreign fields. Acting in Mr. Leonardon's capacity in Houston during the summer will be PAUL CHARRIN, vice president of the company.

JOHN R. RUMBAUGH, who has been studying petroleum engineering at the University of Southern California, at Los Angeles, will soon return to his home in Tulsa, before taking up work for the summer in the East Texas field.

ERNEST O. THOMPSON, chairman of the Texas Railroad Commission, announces that 14 young petroleum engineers graduating this month from University of Texas and Texas A. & M. College will be given positions with the commission for the summer. The University of Texas graduates are ALBERT S. TRUBE, Austin; HERBERT KARACH, San Antonio; HEATH RENFRO, Childress; W. H. FLOOD, Jr., Corpus Christi; A. E. SWEENEY, Breckenridge; JOHN WALKS, Longview; W. H. LEWIS, San Antonio, and AUBREY BROUSSARD, Galveston. Those from Texas A. & M. include LOUIS H. SHEARER, Austin; W. N. HARRIS, Dallas; T. C. POST, Montgomery; C. A. SULLINS, Waco, and A. H. BARBECK, San Antonio. The first job to be given the newly-graduated engineers will be the semiannual testing of all the gas wells in Texas. Four of the men will go to Corpus Christi, one to Houston, two to Kilgore, and seven to Pampa.

R. V. ROSBOROUGH, recently appointed superintendent of the northern division of the Union Oil Company, entered the employ of the company about 15 years ago in the comptrollers department at Los Angeles, Calif. He was transferred to San Luis Obispo as relief dispatcher in the pipe line department. In 1922, he returned to the Los Angeles pipe line office as dispatcher and, in 1923, became chief clerk of the transportation department. In March, 1931, he was appointed supervisor of pipe line operations. Mr. Rosborough will maintain offices at the Union's pipe line headquarters in San Luis Obispo.

JOHN M. COOK is the new production clerk in the Continental Oil Company offices at Wichita Falls, Tex., going there from Shawnee, Okla. Mr. Cook succeeds CURRAN BROWN, who resigned to go to Houston, Tex., to take a position with the American Liberty Pipe Line Company.

JOHN D. ROCKEFELLER, SR., has returned to his Lakewood, N. J., home after spending the winter and spring in Florida.

W. T. LEEPER, formerly with the Crystal Oil Refining Corporation, Shreveport, La., became affiliated with the Bayou State Oil Corporation in its sales department, effective June 1.

RAY COE, petroleum engineer for the Tide Water Oil Company, formerly located at the East Texas field, has been transferred to the Conroe field in the same capacity. He succeeds C. W. CHILDRESS, who has been transferred to the West Texas district as district engineer.

MR. AND MRS. EDWIN O. BARTLETT, of Tulsa, announce the engagement of their daughter, MARGARET, to DR. IAN MacKENZIE of Campbelltown, New Brunswick, Canada. The marriage will take place June 20. Mr. Bartlett is vice president of the Barnsdall Oil Corporation.

LEE SLATER, formerly general superintendent of the Darby Petroleum Corporation, Tulsa, and now of the Phillips Petroleum Company, Oklahoma City, who has been seriously ill at St. Anthony's Hospital, Oklahoma City, is on the road to recovery and will soon return to his home.

JOSEPH B. LOUCKS, for six years manager for the Socony-Vacuum Oil Company in Manchuria, and employed 20 years in China by the company, left Mukden for New York by way of the Siberian railroad, Paris, London and Ireland. He was accompanied by MRS. LOU LOUCKS and daughter JANE.

Now Doctor of Science

The latest distinction bestowed upon Hugh Roy Cullen, widely known independent operator of Houston, Tex., is the honorary degree, Doctor of Science, conferred upon him Wednesday of this week by the University of Pittsburgh. This honor was given to Mr. Cullen in recognition of his consistent success attained during a business career, most of which has been spent in the oil industry on the Gulf Coast where he has pioneered in numerous oil fields.

DR. HUGH ROY CULLEN

Mr. Cullen entered the oil business in Houston in 1917 and after drilling two "dusters" he moved to the Pierce Junction field, east of Houston, where he developed his first production from a deep sand. After considerable drilling at Damon Mound where he developed nothing of startling character he became associated with J. M. West, and the Cullen & West organization was formed with a capitalization of $1,000,000. Under this new partnership, production was opened at Blue Ridge and Rabbs Ridge. The latter proved the more important and the firm's holdings were sold for several million dollars.

Mr. Cullen was born on a ranch near Denton, Tex., July 3, 1881. In addition to being a partner in Cullen & West, he is vice president of the Quintana Petroleum Company, which opened the Tomoconnor field in 1934 as one of the most prolific oil fields in the lower Gulf Coast district.

C. A. McDANIEL, former superintendent of materials for the Atlantic Oil Producing Company, Dallas, has resigned from that position to enter the drilling contracting business.

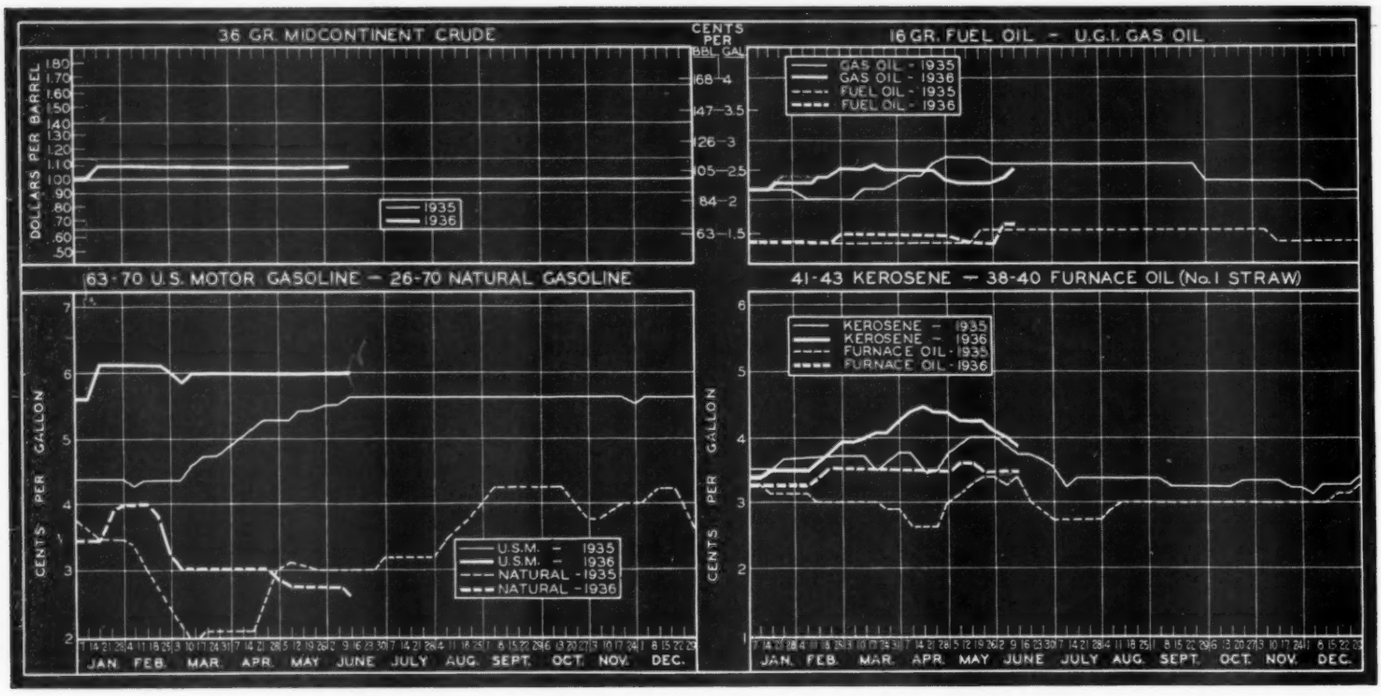
ARNOLD C. DAHL, district exploitation engineer for Shell Petroleum Corporation at Greenwich, Kans., has returned from a two weeks' vacation at the home of his parents in Minneapolis, Minn.

J. A. SHAW, of New Orleans, director of the minerals division of the Louisiana state department of conservation, was a business visitor to the Shreveport conservation office Thursday and Friday.

M. J. GROGAN, president of Rodessa Oil & Refining Company, of Shreveport, La., left Saturday evening for Lowell and Boston, Mass., on a business trip which will require his presence in the East for about a week or 10 days.

P. O. HARDWICK, sales manager for Atlas Oil Corporation, and Sparco Gasoline Company, Inc., Shreveport, La., was a business visitor in St. Louis, Mo., last week and continued his trip to eastern points. He intends to return to Shreveport near the end of this week.

BERT L. STONE, vice president and chief engineer of the Hydril Company, has returned to his headquarters at the company's Torrance, Calif., plant after an extensive trip to eastern machinery manufacturing centers, investigating the latest developments in several types of machine tools preparatory to placing an order for new equipment to be added to the Hydril company's Torrance and Houston factories.


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
CENTS PER BBL GAL
1935
1936
16 GR. FUEL OIL - U.G.I. GAS OIL
GAS OIL - 1935
GAS OIL - 1936
FUEL OIL - 1935
FUEL OIL - 1936
63-70 U.S. MOTOR GASOLINE — 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1935
U.S.M. - 1936
NATURAL - 1935
NATURAL - 1936
41-43 KEROSENE — 38-40 FURNACE OIL (No. 1 STRAW)
KEROSENE - 1935
KEROSENE - 1936
FURNACE OIL - 1935
FURNACE OIL - 1936
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Natural Gasoline, Supposedly at Its Low in Group 3, Resumes Decline

By T. F. SMILEY

Market interest in the Group 3 territory centered largely this week on the spill experienced by natural gasoline. Only a week ago confidence was expressed quite generally that prices had touched bottom and that though weakness was plain enough the next price movement would be upward. But outlets that had been counted on got stopped up. Stocks backed up. The inevitable happened. Quotations dropped. All grades lost at least an eighth, and 12-pound material suffered even more severely, encountering difficulty in finding takers at 4 cents, in contrast with 4¾ cents quoted a week earlier.

North Texas prices, slightly under those of Oklahoma manufacturers, were holding, but there was no assurance they could do it long. Some discouraged manufacturers in Oklahoma declared they would feel no surprise if the Oklahoma prices sank to the Texas level or even lower before an upturn appears. Refiners refused to be interested in offerings, and with cars of 26-70 material standing on tracks, waiting for somebody to invite them out, it looked as though the decline had not yet reached its limit.

Off to Bad Start

The naturals got off to a bad start this year. Several cargoes which were expected to be taken by European buyers last January did not leave the American shore; and this held-ever material, along with an extraordinarily high storage rate, resulted in accumulations at plants almost double those of last year at this time. Storage at Gulf terminals also is far beyond that of 1935. Reports are to the effect that offshore shipments from the Gulf Coast in May and June will total eight cargoes. Four of these are for European destinations, three for the East Coast and one for California. While these shipments afford a distinct measure of relief, they are not enough to remove the problem confronting natural gasoline manufacturers. As a matter of fact, European business which seemed to be in sight a few weeks ago has not materialized.

Some observers express the view that this is just the sort of situation which is likely to bring European buyers out of retirement. These buyers are characterized as inveterate bargain hunters, with an uncanny faculty of knowing when prices have reached their irreducible minimum. The one California cargo, bought by the Richfield Oil Co., went through the Panama Canal late last week. Whether the need of natural gasoline on the part of independent refiners of the West Coast will result in any further business for Oklahoma, North Texas and the Gulf Coast is a matter of conjecture.

Refined Oil Market Barometer

Gasoline is exhibiting a somewhat better tone as a result of mounting demand. Overproduction of crude and need of further curb on runs to stills, along with topheavy inventories, continue to be an unfavorable market factor. Heating oils are becoming firmer as the season for storing them nears. Lubricants are in active demand and the industrial fuels are in good position.

MID-CONTINENT. Little change in gasoline. Naturals weak. Kerosene off.

EAST COAST. Gasoline steadier. Outlook for heating and industrial oils favorable.

GULF COAST. Gasoline steady. Kerosene dull. No change in prices.

PENNSYLVANIA. Lubricants and gasoline vigorous. Wax off.

CALIFORNIA. Market firm owing to need for natural. Export business quiet.

CHICAGO. Gasoline improving. Kerosene and tractor fuels easier.

Little Change in Gasoline

Little change was observable in the tankcar gasoline market, though it was believed its undertone was slightly firmer as a result of record-breaking consumption. Sales managers of various companies reported their sales for May this year were far beyond those for the same month in 1935. June has started off in most encouraging fashion, and July and August are expected to record smashing business. Several flies continue to wriggle in the ointment. Two of them, sources of deep concern for many weeks, are the overproduction of crude and the failure to cut runs to stills severely enough. If these two were removed, a third one, huge excess stocks of gasoline, probably would be able to crawl out by itself.

Prices were without important change. Some East Texas gasoline, designated rather casually perhaps as 65-octane, was reported sold in northern areas at 5 to 5½ cents. Oklahoma refiners said they were selling none of this grade under 5⅜ cents.

Kerosene was softening as the demand for tractor fuel lessened with the approach of the plowing season's end. The furnace oils, though some of them underwent slight price recessions late last week, were reported to be steadying under the influence of inquiries for fall storage. Gas oil and fuel oil retained their firmness. The spot market in wax was motionless.

Eastern Motor Fuel Markets Steadier, Although Weak Spots Still Present

NEW YORK, June 8.—Eastern motor fuel markets displayed a much steadier undertone during the week. Although several weak spots are still present, it can be said confidently the outlook for the clearing up of these is now much brighter.

Unusually heavy demand for gasoline along the Atlantic Seaboard is the dominant factor in the current situation. This section has experienced unusually fine motoring weather for an uninterrupted period of nearly 20 days, and it has made itself felt not only by the heavy movement of gasoline into consumption, but also in a substantial decline in stocks on hand at bulk stations, the major companies report. The improvement in the underlying situation which this entails is noteworthy, as a few weeks ago there was a substantial degree of pressure on bulk distributors to move their stocks, in some instances even at a sacrifice as to price. This pressure now seems to have been lifted to a great extent.

It is believed in some quarters that the present situation as to inventories at bulk plants and service stations would have had an immediate and favorable effect on the price structure, had it not been for the excessive stocks still held by refiners. However, as conditions are at present, refiners are in a position to influence the market at once simply by reducing their refinery runs of crude and producing less motor fuel. The trade would not have to wait for the benefit of this to be communicated through the bulk terminals, as stocks on hand at the latter are now considered to be in satisfactory shape.

In this connection it is interesting to note that the American Petroleum Institute statistics show that at eastern refineries stocks of gasoline are substantially larger now than a month ago, whereas stocks at bulk terminals, etc., are lower than they were. The increase in refinery stocks has amounted to nearly 1,000,000 bbls., whereas normally stocks should now be lower than a month ago. On the other hand, stocks at bulk terminals are about 350,000 bbls. below those of last month. The latter figure does not fully reflect the improvement which has taken place more recently. During the week ended May 30, terminal stocks in the East are reported to have shown a decrease of 476,000 bbls. alone.

The tendency toward a reduction in dealers' margins seems more prevalent now than at any time within the past few weeks, following the increase placed in effect early in May in this section. The tendency is most apparent in the metropolitan New York area and adjacent territory in Connecticut and New Jersey. The Standard Oil Co. of New Jersey announced a reduction of three-tenths of a cent per gallon in the dealer and service station price at Atlantic City, N. J., effective June 3. This brings the tank-wagon price to 14 cents and service station price to 17.5 cents, including 4-cent tax. Despite this isolated change, there has been no official announcement of any changes elsewhere which would indicate the underlying improvement in the situation reported reliably by marketing interests.

The general outlook for heating and industrial fuel oils appears more favorable at the present time. Prices are holding firmer under the influence of fairly good results obtained in closing contracts with consumers for future requirements. In this connection it now seems apparent that the recent reductions in furnace oil and industrial fuel oil prices resulted in substantially increased sales and has placed the market in a much better position.

Local marketers declined to comment on charges made by L. A. Brady, executive secretary of the Fuel Oil Association, that injurious practices were in effect in connection with the operation of the furnace oil market. Mr. Brady, in a letter to the membership of the Fuel Oil Association, said:

"This association has been giving serious consideration to the correction of abuses and injurious practices in the fuel oil industry in the metropolitan area of New York. One of the practices considered by this association as injurious is the offer on the part of companies engaged in the sale of fuel oils to render so-called 'free service' on any type of burner in connection with the securing of fuel oil contracts.

"We have been advised by counsel that such a practice is an unfair method of competition and violates the law. Section 5 of the Federal Trade Commission act gives that body power to prevent persons from using such unfair methods of competition in commerce. Many complaints have been filed with the commission covering so-called 'free' gifts in connection with the distribution of various products and we have been advised by counsel that the commission has held that such practices are unlawful.

"We are all aware that this practice has become prevalent in the metropolitan area and constitutes a serious problem. This association advises not only its own membership but every fuel oil marketer in the area that if not at once discontinued, complaint in each and every case will be filed with the Federal Trade Commission with a request to vigorously prosecute."

This letter is regarded as calling attention to the growing importance of the furnace oil market and the fact that the extent of this business now may call for considerable research on the part of the industry to determine how it may be best handled in the future from a sales efficiency viewpoint.

Export Markets

The Gulf oil export market continued rather inactive during the past week. The only definite cargo placed, according to the reports, was for approximately 70,000 bbls. of export gasoline for immediate delivery to a United Kingdom buyer. This lone cargo apparently failed to stimulate prices, which are holding at around the same levels as last week. If anything, there seems to be less disposition on the part of Gulf export interests to offer prices down, probably due to better feeling generally in the southwestern markets.

It is reported from Rumania that conditions are steadily improving in the gasoline market. Italian buyers have come into the market after a lapse of several months.

The Rumanian government has contracted to sell its royalty oil to the Societe Petrofina Francaise for the period from May 1, 1936, to April 30, 1948. Under the contract, as reported here, Petrofina agrees to buy all the royalty oil up to approximately 5,200,000 bbls. annually, except that due from the Astra Romana and Romana-Americana oil companies. The contract also provides for the resale of a portion of this oil, under certain conditions, to refining companies in Rumania which have no crude oil production. Any oil resold to Rumanian companies must be refined in Rumania. The government also reserves the right to purchase any or all of the royalty oil from Petrofina which the latter does not sell to Rumanian companies.

Provision is also made in the contract for the exportation of a portion of this oil. Under certain conditions the amount available for export could reach approximately 1,750,000 bbls. per annum.

It is understood that prices to be paid for the oil are based on the current prevailing quotations at Constanza, with allowance for freight and taxes. The Rumanian government obtains a minimum royalty of 12 per cent on all oil pro-

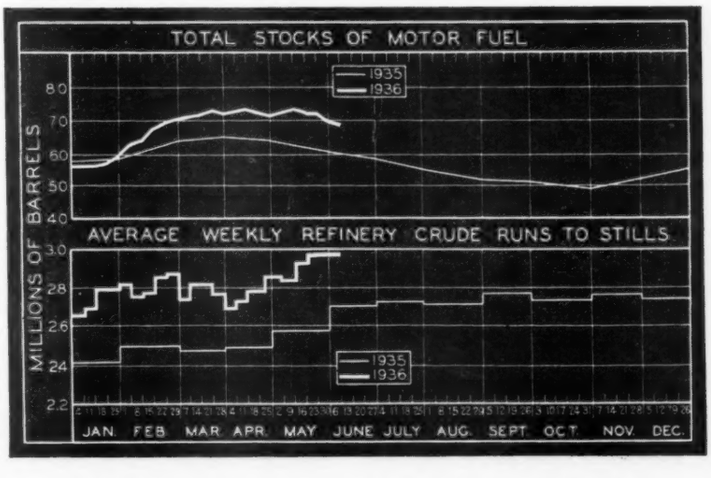
(Continued on Page 104)

A. P. I. Weekly Refinery Statistics

Week Ending June 6, 1936

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	540,000	19,743,000	8,805,000
Appalachian	94.0	100,000	2,709,000	471,000
Indiana, Illinois, Kentucky	95.9	397,000	10,231,000	3,762,000
Oklahoma, Kansas, Missouri	84.8	302,000	7,174,000	3,068,000
Inland Texas	48.5	98,000	1,511,000	1,698,000
Texas Gulf	96.8	609,000	7,559,000	7,362,000
Louisiana Gulf	96.4	124,000	1,571,000	2,024,000
North Louisiana and Arkansas	90.9	35,000	442,000	407,000
Rocky Mountains	61.9	41,000	1,461,000	730,000
California	92.6	511,000	13,506,000	71,636,000
Total reported	89.6	2,757,000	65,907,000	99,963,000
Estimated unreported	.....	193,000	4,732,000	2,941,000
*Estimated total	.....	2,950,000	70,639,000	102,904,000
*Estimated total previous week	.....	2,973,000	70,974,000	102,188,000
†June 30, 1935	.....	2,724,000	59,507,000	103,674,000

*Bureau of Mines basis currently estimated. †Monthly report, U. S. Bureau of Mines.



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of June 9, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Chicago	15.5	17.5	4.0	10.1
Decatur, Ill.	16.0	18.0	4.0	10.1
E. St. Louis	15 7	17.7	4.0	9.8
Joliet	14.5	17.5	4.0	10.1
Peoria	16.0	18.0	4.0	10.1
Quincy	15.8	17.8	4.0	9.9
Davenport, Ia.	16.0	(†)	4.0	10.1
Des Moines	15.8	(†)	4.0	9 9
Mason City	16.2	(†)	4.0	10.3
Sioux City	16.0	(†)	4.0	10.1
Duluth, Minn.	16.8	18.8	4.0	10.9
Mankato	16 4	18.4	4.0	10.5
Minneapolis	16.4	18 4	4.0	10.5
LaCrosse, Wis.	17.4	19.4	5.0	10.5
Green Bay	17.7	19.7	5.0	10.8
Milwaukee	16.3	18.3	5.0	10 4
Madison	17.4	19.4	5.0	10 5
Detroit, Mich.	14.0	16.0	4.0	8.8
Grand Rapids	15.4	17.4	4.0	9.3
Saginaw	16 6	18.6	4.0	10.1
Evansville, Ind.	17.7	19.7	5.0	10.6
Indianapolis	17.9	19.9	5.0	10.8
South Bend	18.1	20.1	5.0	11.0
Fargo, N. Dak.	17.4	19.4	4.0	11.5
Huron, S. Dak.	17.9	19 9	5.0	11.0
Sioux Falls	17.4	19.4	5.0	10.5
Kans. City, Mo.*	15.4	17.4	4.0	8.0
Springfield	15.1	17.1	4 0	9.2
St. Louis	15.7	17.7	4.0	9.8
St. Joseph*	15.4	17.4	4.0	9.5
Wichita, Kans.	14.9	16.9	4 0	7.1
Bartlesville, Ok.	15.0	19.0	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers except in Iowa: 3½ cents on premium and regular and 2½ cents on third grade off service station prices; discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Dealers in Iowa sold at posted "Dealer Prices."

Stanolex Fuel Oil in Chicago

Effective February 10, 1936, f.o.b. Chicago tank-wagon prices: Range oil, less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons and more, 7.25 cents. 1 (36-40 lt. stw. zero), less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons or more, 7.25 cents; No. 3. (22-26 zero), less than 150 gallons, 7.5 cents; 150 gallons or more, 6.5 cents; No. 4 (12-16 zero), less than 400 gallons, 7.5 cents; 400 gallons or more, 6.5 cents, viscosity of No. 4, 85° and 100° F.; No. 5, less than 400 gallons, 5.75 cents; 400 gallons or more, 4.75 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Denver, Colo.	19.0	21.0	5.0	11.0
Pueblo	19.0	21.0	5.0	13.0
Grand Junction	21 5	23.5	5.0	15.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	21.0	....	6.0	14.5
Billings	22.5	24.5	6.0	14.5
Helena	22.5	24.5	6.0	17.5
Great Falls	22.5	24.5	6 0	14.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Twin Falls, Ida.	23 0	25.0	6 0	18.0
Boise	22.5	24.5	6.0	18.0
Albu'que, N. M.	18.5	20.5	*6.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Atlanta, Ga.	20.5	22.5	7.0	*13.5
Augusta	20.0	22.0	7.0	*13 0
Macon	20.0	22.0	7.0	*14.5
Savannah	18.5	20.5	7.0	*13.0
Birm'ham, Ala.	21.0	23.0	8.0	11.0
Mobile	21.0	23.0	9.0	10.0
Montgomery	22.0	24.0	9 0	14.5
Jackson, Miss.	20.0	22.0	7.0	*13.0
Vicksburg	19.5	21 5	7.0	*13.0
Jacksonville, Fla.	18.0	20.0	8.0	10.0
Miami	19.5	21.5	8.0	13 5
Pensacola	21.5	23.5	9.0	12.0
Tampa	18.0	20.0	8.0	12.5
Lexington, Ky.	19.0	21.0	6.0	11 0
Covington	18.5	20.5	6.0	10.5
Louisville	19.0	21.0	6.0	10.0
Paducah	18.0	19.0	6.0	8.5

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
San Francisco	17.0	18.0	4.0	11.5
Los Angeles	16.5	17.5	4.0	9.0
Fresno, Calif.	17.5	18.5	4.0	11.0
Phoenix, Ariz.	21.0	22.0	6 0	‡16.0
Reno, Nev.	19 5	20.5	5.0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash.	19.5	20.5	6.0	13.5
Tacoma	19.5	20 5	6.0	13.5
Spokane	22.5	23 5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank-wagon lots except in Phoenix where discount is 1 cent.

‡Includes 5-cent state tax.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Atl'tic City, N.J.	14.0	17.5	4.0	9.0
Newark	14.3	17.5	4.0	7.5
Annapolis, Md.	15.6	19.1	5.0	10.0
Baltimore	15.0	18.5	5.0	8.0
Cumberland	16.6	20.1	5.0	12.7
Wash'g'n, D. C.	13.0	16.5	3.0	9.0
Danville, Va.	17.5	21 0	6.0	12.9
Norfolk	16 0	19.5	6.0	11.3
Petersburg	16.5	20.0	6.0	11.7
Richmond	16.5	20.0	6.0	11.7
Raonoke	17.5	21.0	6.0	12 9
Charles'n, W. Va.	15.8	19.3	5.0	12.6
Parkersburg	15.1	18.6	5.0	11.2
Wheeling	16.0	19 5	5.0	12.2
Charlotte, N. C.	18.4	21.9	7.0	12.6
Hickory	18.9	22.4	7.0	13 0
Mt. Airy	18.7	22.2	7.0	12 8
Raleigh	18.0	21.5	7.0	12.1
Salisbury	18.5	22.0	7.0	12.7
Charleston, S.C.	17.0	20.5	7.0	11.3
Columbia	18.3	21.8	7.0	12.6
Spartanburg	18.7	22.2	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Omaha	18 4	20.4	6.0	10.4
McCook	19.1	21 1	6.0	11.1
Norfolk	18.8	20.8	6.0	10.8
North Platte	19.2	21.2	6.0	11.2
Scottsbluff	19.9	21.9	6 0	11.9

Note—Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Philadelphia, Pa.	16.5	17.5	5.0	9.5
Pittsburgh	17.5	19.5	5.0	10.0
Allentown	17.0	18.0	5.0	9.5
Erie	17.5	18.5	5.0	8.0
Scranton	16.75	17.0	5.0	10.0
Altoona	17.5	19.5	5.0	9.5
Dover, Del.	17.0	17.0	5.0	10.0
Wilmington	16.5	16 5	5.0	9.5
Springf'ld, Mass.	14.0	17.5	4.0	7.5
Worcester	13.5	17.0	4.0	7.75
Hartford, Conn.	14.5	18.0	4.0	7 0
New Haven	13.0	16.5	4.0	7.5
Providence, R. I.	12.0	15.5	3.0	7.0

Note—Tank-wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
N. Orleans, La.	18 5	22.0	‡9.0	12.0
Baton Rouge	17.5	21.0	†7.0	11.5
Alexandria	18.5	22.0	†*8.0	11.0
Lafayette	19 0	22.5	‡*8.0	12.5
Lake Charles	19.0	22 5	†*8.0	11.0
Shreveport	17.0	20.5	†7.0	10.0
Knoxville, Tenn.	21.0	24.5	8.0	14.0
Memphis	19.0	22 5	8.0	11.0
Chattanooga	20.5	24.0	8 0	11.5
Nashville	20.0	23.5	8.0	10.0
Bristol	18.75	21.5	8.0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 3-cent parish tax.

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Post deal	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Albany, N. Y.	14.0	17.5	5.0	7.75
*Met. N. Y.:				
Manhtn., Bronx	14.2	19.2	5.0	7.25
Staten Island	14.2	19.2	5.0	7.25
Qu'ns & Br'klyn	14 2	19.2	5.0	7.25
Buffalo	14.5	18 0	5.0	8.25
Rochester	14.5	18.0	5.0	8.25
Syracuse	14.5	18.0	5.0	8 75
Boston, Mass.	12.5	16.0	4 0	7.5
Portland, Me.	14.5	18.0	5.0	7.75
Manch'ter, N. H.	15.0	18.5	5.0	8.0
Burlington, Vt.	17.0	20.5	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero. tank wag.
Dallas, Tex.	14.0	18.0	5.0	8.5
Fort Worth	14.0	18 0	5 0	8.5
Houston	14.0	18.0	5.0	8.5
San Antonio	14.0	18.0	5.0	8.5
El Paso	15.0	19.0	5.0	8.0
Muskogee, Ok.	15 0	19 0	5.0	8.0
Okla. City	15.0	19.0	5.0	8.0
Tulsa	15.0	19.0	5.0	8.0
Ft. Smith, Ark.	15.5	19.0	5.0	8.0
Little Rock	18 0	21 5	7.5	9.5
Texarkana	14.5	18.5	5.0	8.5

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero tank wag
Ohio points	17.5	19.5	5.0	*13 5

*Includes state tax of 1 cent.

Canada*

Imperial 3-Star Gasoline

IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Gasoline Inc. tax	Kero tank wag
Hamilton, Ont.	21.0	23.5	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	30.8	33.8	7.0	22 3
Winnipeg, Man.	29.2	32.2	7.0	20 7
Regina, Sask.	30.5	33.5	7.0	22.0
Saskatoon, Sask.	33.3	36.3	7.0	24 5
Edmonton, Alta.	32.7	35.7	7.0	24.2
Calgary, Alta.	30.0	33.0	7.0	21.5
Vancouver, B. C.	26.0	29.0	7.0	24.0
Montreal, Que.	19.5	22.0	6 0	17.5
St. John, N. B.	25.0	29.0	8.0	19 5
Halifax, N. S.	25.0	29.0	8.0	19 5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less.

Retail Price Changes

Standard Oil Co. (Indiana) June 5 reduced tank-wagon and station gasoline 1 cent in Grand Rapids.

Standard Oil Co. of New Jersey June 5 reduced tank-wagon and station gasoline .3 cent in Atlantic City.

Magnolia Petroleum Co. June 2 raised tank-wagon gasoline one-half cent and station gasoline 1 cent in Fort Worth.

N. Y. Markets

(Continued from Page 103)

duced in Rumania, with a larger royalty than this on some of the newer concessions.

Details of the Anglo-Rumanian Payments Agreement, under which certain exporters are reported to have some advantage over their competitors, are now available. The original agreement, dated August 3, 1935, has been renewed as of June 1, 1936, and can be terminated on one month's notice by either side after January 1, 1937.

The agreement includes the following provisions:

1. Establishment of a clearing office in London through which all payments will be made, and all debts which were due and owing paid.

2. Receipts to be allocated on the following basis: (a) 35 per cent for financial requirements in the United Kingdom of the Rumanian government and Rumanian Monopolies Institute; (b) 5 per cent up to £50,000 per annum for bank debts and outstanding trade debts; (c) 50 per cent for current trade debts and outstanding trade debts; (d) 5 per cent for interest, rent, insurance fees, etc., and (e) 5 per cent to be at free disposal of the National Bank of Rumania.

3. It is stipulated that the premium charged by the National Bank of Rumania for sterling for outstanding debts shall not exceed 38 per cent.

4. The Rumanian government will grant import licenses for United Kingdom goods up to the full amount of the sterling available for current trade. Licenses will be issued in relative proportions in which various classes of goods were imported in the year 1933.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of June 9, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below (3d. gr.)	.04¾	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06¼
60-62 400 grades:		
62 octane and below	.04¾	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06¼
64-66 375	.05	.05⅛
68-70 360	.05⅛	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04¾	.05
63-67 octane	.05½	.05⅝
68-70 octane (regular)	.06	.06⅛
60-62 400	.04¾	.05
64-66 375	.05⅛	.05¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:	
62 octane and below	.05¾
63-67 octane	.06½
68-70 octane (regular)	.06⅝
60-62 400	.05¾ .06

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:	
62 octane and below	.05¾
63-67 octane	.06½
68-70 octane (regular)	.06¾

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04¾	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
60-62 400 grades:		
62 octane and below	.04¾	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
64-66 375	.05	.05⅛
68-70 360	.05⅛	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:	
Below 60 octane	.05⅝
60-64.9 octane	.06¾
65-70 octane	.07
64-66 375	.05⅜
68-70 350	.06

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06½	.07½
58-60 400	.07½	.08

EAST COAST—(domestic)—

U. S. Motor, below 60 octane:	
*New York (Bayonne)	.06½
Baltimore	.06½
U. S. Motor, 60-64.9 octane:	
*New York (Bayonne)	.06¾
Philadelphia	.06⅞
Boston	.06¾
Baltimore	.06½
Charleston, S. C.	.06½
U. S. Motor, 65 and above:	
*New York (Bayonne)	.07
Philadelphia	.07
Boston	.07
Baltimore	.06¾
Charleston, S. C.	.06¾

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05⅝	.05⅞
60-64.9 octane		.06
65 octane and higher	.06⅛	.06¼

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05½
52-54 450 (blending)	.05½
54-56 450 (blending)	.05⅝

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.02⅝
Grade 18-55	.03¼	.03¼
Low vapor pressure grade:		
*14 lb. v.p. (max.)	.03½	.03⅝
*12 lb. v.p. (max.)	.04	.04⅛

*Nominal.

NORTH TEXAS—

Grade 26-70		.02½
Grade 18-55	.03	.03¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.03	.03⅛

CALIFORNIA—

75-85 375-390	.06½	.07½

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.04¼	.04⅜
41-43 gr., 300-350 l.b.p., 110-125, flash, 500-520 e.p.		.04¼
46-48 gr., 210-230 l.b.p., 480 max., e.p.		.05

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅞	.04⅛
42-44	.04⅛	.04¼

NORTH TEXAS—

41-43	.04	.04¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04¼	.04⅜

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04⅜	.04⅝

PENNSYLVANIA (inland refineries)—

45	.05¼	.05⅜
46	.05⅝	.05½
47	.05½	.05⅝

CHICAGO (Based on Group 3)—

41-43	.04	.04⅛
42-44	.04⅛	.04⅜

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½	.05

NEW YORK (Bayonne, N. J.)—

*41-43	.04⅞

GULF COAST (domestic)—

41-43		.03⅞

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅝	.03⅞
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03	.03¼
No. 2 dark, 32-36	.02⅞	.03⅛
No. 3, 28-32	.02¾	.03
No. 3, 15 and above, 28-32	.02⅝	.02½

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03⅞
No. 1 straw, 38-40	.03⅜	.03⅝

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.02⅞	.03

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03½	.03⅝
No. 3, 28-32	.03½	.03¼

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-42	.03⅝	.03⅞
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03	.03¼
No. 2 dark, 32-36	.02⅞	.03⅛
No. 3, zero to 15, 28-32	.02¾	.03
No. 3, 15 and above, 28-32	.02⅝	.02½

NEW YORK (Bayonne, N. J.)—

*No. 1	.04⅞
*No. 2	.04¼
*No. 4	.03⅝

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02½	.02⅝
No. 4, 24-28, low cold test	.95	1.05
No. 4, 15 and above, 24-28	.80	.85
No. 5, low cold test	.72½	.80
Below 18 fuel oil, industrial	.70	.75

NORTH TEXAS—

U.G.I. gas oil		.02½
No. 4, 24-28, low cold test	.92½	1.00
No. 5, low cold test	.72½	.80
Below 18 fuel oil, industrial	.65	.75

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.02⅞
10-14 fuel oil, industrial	.70	.75

ARKANSAS (Ark. N. La., Miss. delivery)

10-14 fuel oil, industrial	.60	.65

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅜	.02½
No. 4, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.77½	.82½
No. 5, 18-22	.72½	.75
No. 6, 10-16	.62½	.67½

PENNSYLVANIA (inland refineries)—

36-40	.04⅝	.04¾

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.00	1.20
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.10	1.30
12-16 (bunkers at tidewater)	.85	.95
10-16 (cargo lots)	.80	.95
12-17 (tankcars)	.70	.95
San Joaquin Valley:		
10-18 (tankcars)	.65	.75
San Francisco:		
24 plus diesel, per bbl.	1.30	1.35
24 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03¼	.03⅜
28-30 diesel (bunkers)		1.50
Bunkers (bulk cargoes)		.80
Bunker C (bunkers)		.90

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04¼
28-30 diesel (lighterage 6¼ plus per bbl.)		1.65
28-30 diesel (tankers)		.04½
*Bunkers C (to ocean-going ships in N. Y. harbor)		1.05
Industrial fuel (tankcars)		.03¾

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:	
190-200 D, 15-25	.21½
150-160 D, 0-10	.18½
150-160 D, 15-25	.18
150-160 E, 15-25	.17½
100-110 D, 0-10	.17
Steam refined:	
631 green (treated)	.13½
600 dark green (untreated)	.06 .07½

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade No. 8 color, 145-50 at 510; 540-550 flash):

10 pour test	.24½ .25
15 pour test	.23½ .24
20 pour test	.22½ .23
25 pour test	.21½ .22
Steam refined:	
600	.13½ .14
650	.14½ .15
600 Pennsylvania flash	.15½ .16
630 flash	.17½ .18
600 Warren E filtered	.15½ .16

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:	
150-3	.10
180-3	.11½
180-4	.10¾
200-3	.11⅝
200-4	.11½
250-3	.13¾
250-4	.13½
280-3	.14⅜
280-4	.14½
300-3½	.15¼
400-3½	.16
100-2 paraffin oil	.05¾
15-20 Cold Test:	
200-3	.10¾
200-4	.10½
240-3	.12⅜
240-4	.12½
280-3	.13⅜
280-4	.13½

GULF COAST—

Pale Oils:		
200-3	.07	.07½
300-3	.07½	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09½	.09⅝
2,000-4	.09⅝	.10
Red Oils:		
200-5-6	.07	.07¼
300-5-6	.07¼	.07½
500-5-6	.08	.08½
750	.08½	.09
1,200-5-6	.09	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3		.06
200-2½-3		.06½
300-3-3½		.06½
400-3-4	.08½	.09¼
450-3-4	.09⅝	.10
550-3-4	.10	.10¼
600-3-4	.10¼	.10½
Red Oils:		
200-4-5		.06
300-5-6		.06¼
350-5-6	.07	.08
400-5-6	.08	.08½
450-5-6	.08¼	.08½
500-5-6	.08½	.09
600-5-6½	.09	.09½
700-6½ plus	.09¾	.10
750-6½ plus	.10	.10¼
900-6½ plus	.10¼	.10½

PENNSYLVANIA

150 vis. at 750° F., color, 400-405 flash:		
Zero pour test	.20	.20½
10 pour test	.19	.19½
15 pour test	.18½	.19
25 pour test	.17½	.18
180 vis. at 70° F., 3 color:		
25 pour test	.20	.20½
200 vis. at 70° F., 3 color:		
Zero pour test	.23½	.24
10 pour test	.22½	.23
15 pour test	.22	.22½
25 pour test	.21	.21½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02⅝

PENNSYLVANIA—(inland refineries)—

122-124 (a.m.p.) w.c. scale	.0230	.0235
124-126 (a.m.p.) w.c. scale	.0235	.0240

NEW YORK—

Wax in bags fully refined:		
123-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0240	.0245
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05⅞

Export Prices

GASOLINE

GULF COAST—		
U. S. Motor	.05	.05⅛
60-62 400	.05⅛	.05¼
61-63 390	.05¼	.05⅜
64-66 375	.05⅜	.05½
LOS ANGELES—		
U. S. Motor grades:		
53-55 octane		.04½
55-56 octane	.04½	.04¾
65-67 octane	.04¾	.05
67-69 octane	.05	.05¼
Above 69 octane	.05¼	.05½
65 and above 400 e.p.	.05½	.06

KEROSENE

GULF COAST—		
41-43 prime white		.03⅞
41-43 water white		.04
44 water white		.04¼
LOS ANGELES—		
41-43 water white	.04¾	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.21	.21½
600 S.R. unfiltered	.19	.19½
650 S.R. unfiltered	.19½	.20
600 flash S.R.	.20½	.21
630 flash S.R.	.23½	.24
Bright Stocks:		
8 color		.26½
6½ plus color in dilution		.26

NEUTRAL OIL

200-3 color	.26½	.27
150-3 color	.22½	.23

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0260	.0270
124-126 y.s.	.0240	.0245

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gypsy Oil Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell Counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.28
Grass Creek, Wyo., heavy*†	.72
Hamilton Dome, Wyo.*	.67
Elk Basin, Wyo., light *†	1.28
Frannie, Wyo., heavy*	.72
Frannie, Wyo., light (Feb. 24, 1936)*	.78
Hogback, N. Mex.*	1.21
Pondera, Mont.* (Jan. 29, 1936)	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo.†	1.12
Artesia, N. Mex. (Dec. 1, 1933)‡	.75
Maljamar, N. Mex. (Sept. 29, 1933)‡	.75
Fort Collins and Wellington, Colo.‡ (Jan. 9, 1936)	See Note
Florence, Colo.	.98
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.88
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont. (June 5, 1936)	1.15
Cat Creek, Mont.	1.28
Cut Bank, Mont. (May 23, 1934)	1.45

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Southwest Texas

(January 9, 1936)

Saxet	$ .90
Mirando	.85
Pettus	1.25
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duvall by Texas Co.

Middle Western States

OHIO OIL CO.

Lima (Jan. 10, 1936)	$1.25
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)	1.23
Midland, Mich. (Jan. 13, 1936)*	1.32
West Branch, Mich. (Jan. 14, 1936)	1.16
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky (Jan. 9, 1936)	1.23

*Posted by Pure Oil Co. and Simrall Corp. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex.	.90
Refugio, Tex., heavy	.90
Tomball, Tex.	1.30
LaFitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La. (Jan. 16, 1936)	1.05
Evangeline, La.	1.07
Welsh, La.	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; LaFitte by Texas Co.; Bosco by Pure; Evangeline and Welsh by Stanolind Oil & Gas Co.; Livingston by Shell Petroleum Corp.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$.75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East Field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana. El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita Counties, Arkansas.

Eastern States

TIDE WATER PIPE CO.

(Effective Jan. 13, 1936)

Bradford, Pa.	$2.46
Allegany, N. Y.	2.46

SOUTH PENN OIL CO.

(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.46
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.42

PENNZOIL CO.

(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.42
Group B — Includes Titusville district.	2.41
Group C — Includes Turkey and Tidioute districts.	2.40
Group D — Includes Bear Creek and Porkey districts.	2.39
Group E — Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	2.36

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.

(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.12
Bradford Hollow, W. Va.	2.12
Kelly Creek, W. Va.	2.12

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clear naphtha	2.70
Discolored naphtha	2.46
Crude oil, 50 gravity	2.32
Crude oil, 45 to 49.9	2.12
Crude oil, 40 to 44.9	1.55

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$ .74

*F.o.b. ship, based on April transactions and exclusive of production and export taxes and bar dues.

George S. Rollin, independent oil operator of San Antonio, Tex., was a visitor in Tulsa the past week. He formerly was in charge of the Shell Petroleum Corp. offices in Tulsa.

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas, and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Anahuac and Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$.92	....	$.82
20-20.9	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	....	....	....	....	$.75	....	....	....
29-29.9	.96	.86	.93	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.08	.98	1.05	1.00	.88	.83	$1.24	.88	1.22	1.14	1.14
36-36.9	1.10	1.00	1.07	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Magnolia Petroleum Co. in the East Central Texas field pays 7 cents per barrel less than above posted prices in that field.

STANDARD OIL CO. OF CALIFORNIA

Crude oil prices at the well effective March 7, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canon	Athens-Rosecrans	Domingues	Elwood Terrace	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills	Buena Vista Hills Midway-Sunset except Lakeview Area	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.65	$.70	$.65	$.70	$.70	....	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.66	.74	.66	.74	.71	$.70	....
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.82	.77	.80	....	.70	.68	.78	.68	.78	.72	.70	....
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.73	.71	.82	.71	.82	.74	.70	....
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.74	.87	.74	.86	.78	.72	....
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.77	.92	.77	.90	.82	.76	....
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.80	.97	.80	.94	.86	.79	....
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	.83	1.01	.83	.98	.90	.83	....
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	.86	1.06	.86	1.02	....	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	.88	1.10	.88	1.06	....	....	....
28-28.9	1.14	1.16	.90	1.14	1.16	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	.91	1.15	.91	1.10	....	....	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	.94	1.20	.94	1.14	....	....	....
30-30.9	1.21	1.19	.96	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	.97	1.25	.97	1 18	....	....	..
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	.99	1.29	.99	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.02	1 34	1.02	....	....	....	..
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.04	1.38	1.04	....	....	....	$1.19
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	....	....	1 24
35-35.9	....	....	....	....	....	....	....	1.42	....	1.36	....	....	....	1.25	....	1.29	....	....	....	....	....	....	....	1 27
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.32	....	....	....	....	....	....	....	1 31
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	....	....	1 36
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	....	1 39
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	....	....	1.43
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River and Round Mountain 70 cents for all grades. Kern Front 70 cents for all grades.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1936 High	1936 Low	Week ended June 5 Sales	Week ended June 5 High	Week ended June 5 Low	Week ended June 5 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
125½	75	500	95	93	93	Amerada Corp.	788,675	N.P.	50cQ	4-30-36	$2.00	80	48½	55⅝	39
35⅛	26⅝	6,400	27½	26⅝	27	Atlantic Refining	2,664,904	$25	25cQ	6-15-36	1.00	28	20½	35¼	21½
20	14⅛	7,200	16⅝	15⅞	16⅛	Barnsdall Corp.	2,131,090	$5	15cQ†	5-1-36	‡.20	14¾	5⅞	10	5⅞
21⅝	14	27,400	19½	18⅛	18½	Columbia Gas & Elec.	11,610,036	N.P.	20c	5-15-36	.20	15¾	3⅜	19¼	6⅝
15¼	11½	30,300	12	11⅝	11⅝	Consolidated Oil Corp.	13,983,287	N.P.	25c	4-7-36	.25	12¼	6½	14¼	7¼
38½	28¼	10,700	29	28⅛	28⅛	Continental Oil of Delaware	4,682,671	$5	25c	7-31-36	.62½	35	15⅛	22¾	15⅜
34¾	22	1,700	25⅞	24	24⅜	General Asphalt	387,149	$10	25c	12-17-35	.25	22½	11⅜	23½	12
12¼	6⅜	7,000	8½	7⅞	7⅞	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅝	2½
23	17¼	4,500	19⅝	18¾	18¾	Mid-Continent Petroleum	1,843,872	$10	40cSA	6-1-36	.40	20½	9½	14¾	9⅛
26¼	17	900	17⅜	17	17	Mission Corporation	1,399,345	N.P.	....	.....	....	17¾	10⅜	..	..
40¾	19⅞	5,000	40⅝	37¾	38	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
17½	12½	8,100	13¼	12⅝	13	Ohio Oil Co.	6,563,377	N.P.	25cSA	6-15-36	.30	14¼	9¼	15⅞	8½
18	11⅜	400	12¼	12	12¼	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.25	14	6¾	9⅜	5½
4¼	1⅜	300	2⅝	2⅝	2⅝	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
49⅜	38⅛	8,600	40⅞	39⅛	39½	Phillips Petroleum	4,152,836	N.P.	50cQ¶	6-1-36	1.25	40	13¾	20¾	13⅜
16½	11⅞	4,100	14	13⅜	14	Plymouth Oil Co.	1,050,000	$5	25c	6-30-36	.25	13	6½	16⅜	7¼
24⅞	16⅜	28,100	17½	16¼	16⅝	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6⅛
43⅝	30¾	1,900	32¼	30¾	32¼	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	6-15-36	1.00	36⅞	20¾	38⅜	20¾
19¼	14⅜	2,100	17¼	16½	16½	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	16½	5½	11½	6
120	110½	1,000	119½	118½	119½	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	111	63⅛	89	57
6¾	4⅝	500	4⅞	4¾	4⅞	Simms Petroleum	461,698	$10	1.00 liq.	1-27-36	11.75 liq.	18¾	4¾	17⅛	7¼
31½	19½	900	22½	21½	21⅝	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
17	12½	33,900	13⅛	12½	12¾	Socony-Vacuum	31,151,075	$15	20cSA	3-16-36	.30	15⅜	10⅝	19⅞	12½
47⅝	35⅞	12,600	37¼	36	36	Standard Oil of California	13,014,754	N.P.	25cQ†	6-15-36	1.00	41¼	27¾	42⅞	26½
40⅛	32¾	9,200	34¼	33	33⅛	Standard Oil (Indiana)	15,215,677	$25	25cQ†	6-15-36	1.00	33⅜	23	32¾	23¼
30	25	100	25	25	25	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	....	32	20	41	26
70	51⅛	24,800	59⅞	57¾	58½	Standard Oil of New Jersey	25,856,081	$25	75cSA¶	6-15-36	‖1.25	52⅜	35¾	50⅛	39¼
91	72	200	79½	78	78	Sun Oil	1,733,013	N.P.	25cQ	6-15-36	$1 & 7% Stk.	77	60½	74¼	51½
39½	28⅞	14,200	33½	31	31¼	Texas Corp.	9,340,069	$25	25cQ	7-1-36	1.00	30¼	16½	29⅜	19⅝
15¼	7½	35,600	12	9⅝	11⅞	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	9¼	3¼	6½	2½
19⅛	14⅜	10,000	15⅜	15	15	Tide Water Associated	5,642,342	N.P.	15cQ	6-1-36	....	15⅞	7⅝	14⅜	8
106½	100⅝	800	105	104½	104¾	Tide Water Associated pfd.	626,221	$100	$1.50Q	4-1-36	$6.50	104½	84	87	64½
28½	20⅞	5,000	21⅞	21	21½	Union Oil of California	4,386,070	$25	25cQ	5-9-36	1.00	24	14¾	20½	11½
31⅝	22⅝	1,600	25½	24	24	Union Tank Car Co.	1,200,000	N.P.	30cQ	6-1-36	1.20	26½	20⅞	25¾	15⅝
5¼	2¾	2,600	4¼	3⅞	3⅞	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras.

New York Curb

1936 High	1936 Low	Week ended June 5 Sales	Week ended June 5 High	Week ended June 5 Low	Week ended June 5 Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
20¼	13¼	1,700	15⅜	15⅜	15⅜	Bridgeport Machine Co.	150,000	N.P.	....	5-1-30	....	14⅛	3¾	3¾	½
50	39¾	200	41¾	41	41	Buckeye Pipe Line Co.	200,000	$50	75cQ	6-15-36	$3.00	42½	30½	38	26
4⅞	2½	5,200	3⅛	2⅝	2⅝	Carib Syndicate	799,020	25c	....	.....	....	4¼	1⅝	5½	1½
124¾	105	300	114	110	110	Chesebrough Mfg. Co.	120,000	$25	$1.50Q	6-29-36	6.50	157	115	150	116
7⅜	3	24,400	4⅜	4⅛	4⅛	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	¾	4¼	1¼
4	1⅛	7,300	2¾	2½	2⅝	Colon Oil	2,200,000	N.P.	....	.....	....	2⅛	½	3¼	½
4⅛	1½	9,200	2½	2	2¼	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	½
34¾	19⅞	5,000	27⅛	25½	25¾	Creole Petroleum	6,974,356	$5	20c	12-31-35	.20	23¾	10	14⅜	9⅝
12	9	No sales	..	..	..	Darby Petroleum	509,696	$5	25cSA	1-15-36	.50	8⅞	4	7½	4⅛
4⅜	1⅞	600	3	3	3	Derby Oil & Refining	263,162	N.P.	....	.....	....	2	¾	2¼	1
44	39	100	40	40	40	Eureka Pipe Line	50,000	$50	$1Q	5-1-36	4.00	38	33¼	37	30
98	72	3,400	79	75⅛	75⅜	Gulf Oil Corp.	4,538,101	$25	25c	7-1-36	....	74¾	50¼	76¾	49¾
76½	57	4,000	58½	57	57⅞	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	7-1-36	1.25	64	44	49½	33¼
24½	20	9,500	21⅜	20¾	20⅞	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	6-1-36	1.25	22½	15⅜	17⅞	12⅜
9¼	5½	1,500	7⅛	6¾	6¾	Indiana Pipe Line	300,000	$10	20cSA	5-15-36	.35	6⅛	3⅝	6⅞	3⅝
39⅝	33½	4,300	36¾	36¼	36⅝	International Petroleum	14,247,088	N.P.	$1.25†‡	6-1-36	2.50	39¾	28	33⅜	19⅜
15⅜	9⅞	7,500	13⅜	12¼	12¼	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-16-36	.10	11⅜	4⅜	5	2⅛
15	7⅜	800	11⅞	11	11	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	8⅛	3½	6	3⅜
14¼	9⅞	7,500	11½	10⅝	11	Lone Star Gas	5,382,723	N.P.	20cSA	8-15-36	.30	10⅞	4½	8⅜	4¼
8⅜	5	1,300	6⅜	6	6⅛	Mountain Producers	1,682,182	$10	30cSA	7-1-36	.90	5¾	4⅛	5½	4
23	17⅝	700	18⅞	18¾	18¾	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-36	1.25	20	11¾	18⅛	13⅛
15¾	9¼	1,000	9½	9	9½	National Transit	509,000	$12.50	40cSA	6-15-36	.75	10⅝	6¾	9½	7
4½	2⅞	300	3	3	3	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.20	3¼	2	2½	1¾
6⅝	1⅝	800	3¾	3½	3½	New Mexico and Arizona	1,000,000	$1	....	.....	....	2½	1	2¾	1
6¼	4½	No sales	..	..	..	New York Transit	100,000	$5	15cSA	4-15-36	.30	4⅞	3	4¾	3
9¼	6¼	300	5¼	5¼	5¼	Northern Pipe Line	120,000	$10	15cSA	7-1-36	.50	8	5¼	7	4⅝
6⅝	3¼	43,600	6⅜	5⅝	5¾	Pantapec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4½	1,800	15¼	14¼	14½	Root Petroleum Co.	336,045	$1	....	.....	....	5	1½	..	..
4¾	1⅞	400	3¼	3	3	Ryan Consolidated	296,931	N.P.	....	.....	....	2½	⅝	3⅜	¾
10	7	1,000	7⅞	7⅝	7⅝	Salt Creek Producers	1,496,859	$10	40cSA	6-30-36	1.20	7½	5½	7⅞	5½
40½	32½	1,500	39	37½	39	South Penn Oil	1,200,000	$25	50c†	3-31-36	1.35	34½	21⅝	26½	17½
7⅞	3⅞	1,200	5⅛	3⅞	4	Southern Pipe Line	100,000	$10	15cSA	3-2-36	.30	5	3⅜	5½	3½
60	54	50	59¼	59½	59½	Southwest Penna. Pipe Lines	35,000	$50	$10 spl.	7-1-36	5.00	56	44¼	47	41
23⅜	17⅛	3,700	17⅜	17⅛	17⅛	Standard Oil of Kentucky	2,604,790	$10	25cQ	6-15-36	1.25	24	18	18¾	14⅝
14⅝	11½	100	11½	11½	11½	Standard Oil of Nebraska	188,403	$25	....	6-20-34	....	12	7¾	16⅞	8¼
36¼	21¾	1,400	28	25½	26	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	23⅝	11½	28½	12¼
5	2⅝	18,300	4½	4¼	4⅜	Sunray Oil	1,610,810	$1	....	4-15-31	....	2¾	⅞	2	⅓
9¾	6	1,700	6½	6	6¼	Texon Oil & Land	336,028	N.P.	15cQ	6-30-36	.60	6⅞	5	11	4⅜
7½	4⅜	5,100	5⅛	4⅜	4⅞	Texas Gulf Producing Co.	888,076	N.P.	....	12-29-34	....	4¾	2½	7	3⅜

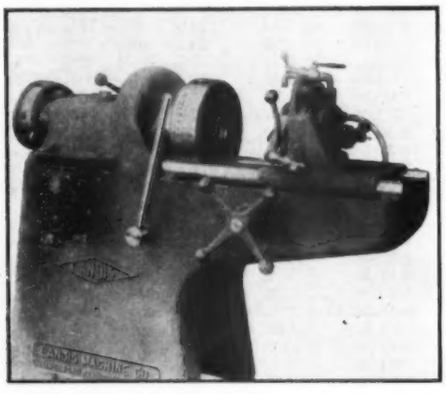
*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note.—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

New Chucks Now Available for Little Landis Machines

The Landis Machine Co., of Waynesboro, Pa., announces a new development for its 2-inch Little Landis pipe threading and cutting machine in the form of a lever-operated front chuck and a rear-centering chuck. Heretofore this machine was furnished with only a three-jaw universal



front chuck and no rear chuck, which still remains standard equipment for the machine.

Should faster operation and additional support for the pipe be desired, the lever-operated front chuck and rear-centering chuck shown in the accompanying picture can be supplied. The lever-operated chuck has a universal adjustment for size, and can be changed for any diameter within the range of the machine, one-quarter inch to 2-inch pipe, by loosening one locking nut. The chuck is graduated for all diameters of pipe and can be changed for size in a few seconds.

The rear-centering chuck is of the three-jaw universal type. It is fitted with a knurled ring for manual operation so that no wrench is required. It does not grip tightly but is intended only for centering and supporting the pipe. It can be applied to machines now in service. The lever-operated front chuck must be built into the machine at the time of construction and therefore can be supplied with new machines only.

Bulletins, Booklets and Other Literature for the Trade

The Bonney Forge & Tool Works, Allentown, Pa., has issued a new catalog describing Bonney Weldolets and Thredolets pipe-welding fittings and illustrating in detail the many types of jobs on which they can be used to advantage.

Fairbanks, Morse & Co., 900 South Wabash Avenue, Chicago, is mailing on request a 14-page booklet describing and illustrating the company's model 35-E diesel engines for rotary drilling rigs. Another piece of literature shows installations of Fairbanks-Morse propeller pumps.

Rod-line equipment, including safety C links, clamps, bar couplers, back cranking units, disconnecting blocks, hookoffs, etc., is described and illustrated in a 16-page catalog announced by Surface Equipment Co., Tulsa.

A mailing-piece which the Colloid Equipment Co., 50 Church Street, New York, describes the Crane Colloidal mixer, which has many uses in the oil industry.

Of special interest to refiners is an article on "Alloyed-Irons in Petroleum Refinery Equipment." in the current issue of Nickel Cast Iron News, published by the International Nickel Co., Inc., 67 Wall Street, New York.

An attractively printed booklet of 24 pages sent on request by the SKF Industries, Inc., Front Street and Erie Avenue, Philadelphia, Pa., shows uses of SKF bearings in the oil fields.

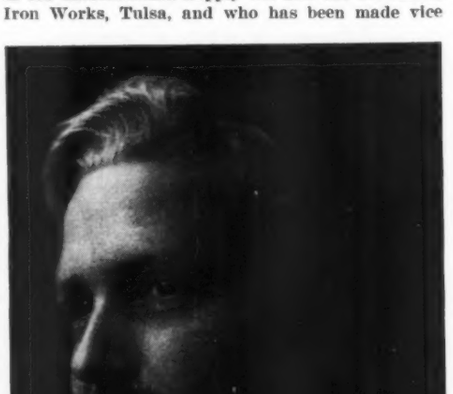
Catalog 7502-E, sent on request by Ingersoll-Rand Co., 11 Broadway, New York, covers the company's type 30 line of industrial compressors and vacuum pumps. It contains 28 pages and cover.

The Cooper-Bessemer Corp. is offering a four-page folder to "those who are interested in slow-speed reliability in a high-speed engine space." It describes the type G-SD vertical pumping engine. Requests may be addressed to the plants at Mount Vernon, Ohio; Grove City, Pa., or to any of the Cooper-Bessemer district offices.

A broadside describing and illustrating the new Sonner Master oil-field burner may be obtained from the Sonner Burner Co., Winfield, Kans.

Men Widely Known in the Equipment Field

A. E. Ballin, who recently acquired an interest in the International Supply Co. and the Oklahoma Iron Works, Tulsa, and who has been made vice



A. E. BALLIN

president and general manager of both organizations, was for years prior to 1929 president of the McIntosh & Seymour Corp., Auburn, N. Y. During that time he established friendly acquaintanceships with many pipe line companies. His early experience was with the Snow Steam Pump Works, Buffalo, N. Y., and he recently has been in charge of engineering and sales of the Norberg Manufacturing Co., Milwaukee, Wis.

Meter Performs Exacting Job of Measuring Oxygen Flow

After two years of research with the cooperation of laboratories of large producers of oxygen, American Meter Co. has announced development of a meter especially adapted to the measurement of oxygen. This meter is the company's modern "Ironcase" in design, but the materials used in

its construction are selected especially for this exacting service. As a result, these meters will measure all the oxygen passing through the line, from the minimum rate of flow to the maximum capacity of the meters. They are available for low-pressure service as well as high-pressure. Where used for measuring high-pressure oxygen they should be equipped with a volume and pressure gauge, a base pressure index or a base volume index.

New Buda Company Announced

The Buda Co., Harvey, Ill., for years builder of heavy-duty multiple-cylinder oil-field power units, has announced organization of Buda Engine & Equipment Co., with headquarters in the Shell Building, Houston, Tex. A warehouse and shop also are located in Houston. A complete stock of Buda oil-field power units and all necessary accessories will be carried. A store has been opened in Kilgore. Addition of these outlets in Houston and Kilgore gives the Buda Co. oil-field distribution and service throughout the United States.

Cochrane Orifice Meter

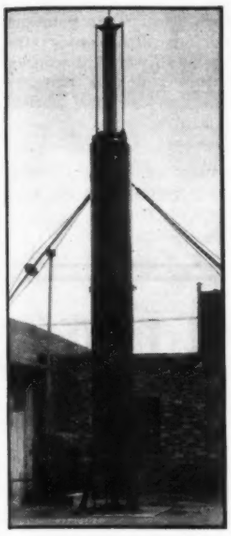
The Cochrane orifice meter, a new development of the Cochrane Corp., Philadelphia, Pa., is designed to meet the demand for an accurate and simple instrument to measure the flow of fluids through pipe lines, such as steam, water, air, and gas. Flow through the orifice, flow nozzle or venturi tube sets up a differential pressure which is conveyed by piping to the U-tube manometer and measured in terms of rate of flow.

Discharges Right or Left

Better to accommodate special piping arrangements of tank-trucks the Ralph N. Brodie Co., 659 Sixty-first Street, Oakland, Calif., has developed a right-angled outlet for the Brodie Quantrol. This new feature permits facing the discharge pipe either left or right. Other modifications include a printing counter which imprints delivery receipts in triplicate. A direct-reading vertical dial counter can be faced in any direction. The Quantrol is fully automatic in operation.

Hydraulic Pump Covers Wide Range of Field Conditions

Roy A. Dunbar, president, and Ralph Van Metre, vice president, of the Mid-Continent Pump Supply Co., Tulsa, announce plans to start immediately the manufacture and distribution of the Mid-Continent hydraulic pumper. First developed in the Pacific Coast fields, the pumps have successfully undergone exhaustive field tests according to William E. Hubbard, inventor, who has been retained by the company to supervise installation and development work.



The pumps will be made in four sizes to handle a wide range of pumping conditions. The Junior size is designed for 2,000-foot pumping with a fluid capacity of 75 bbls. a day. The No. 2 unit, having a stroke of 8 to 10 feet and handling a fluid capacity up to 500 bbls. a day, is designed for pumping at maximum depths of 4,000 feet. The No. 3 unit, with a stroke of 12 to 15 feet and capable of a plunger load of 22,000 pounds, is designed for lifting 100 to 1,100 bbls. of fluid from depths of 4,000 to 7,000 feet. The No. 4 unit has a range of 6,000 to 10,000 feet, is capable of lifting a plunger load of 36,000 pounds and has a stroke of 15 feet.

Either an electric motor or an internal combustion engine can be used for the prime mover. Some idea of the ease with which the unit may be moved for pulling rods may be gained from the fact that only 10 minutes is required to move even the largest of the units.

New Seismograph Drill

Sullivan Machinery Co., Michigan City, Ind., announces its new No. 37 seismograph drill, a motorized shot hole or core drilling rig expressly for oil exploration. The No. 37 can be factory-mounted on a short wheelbase truck or can be supplied for field mounting on customer's truck. It can be supplied for power take-off drive from the truck engine or with separate power unit. Other features are the folding mast of welded tubular construction, antifriction bearings throughout, steel castings, convenience and flexibility of control, the ability to operate with hydraulic feed or to feed off the line (Kelly rod).

Here and There With Men Who Manufacture Equipment

The Westco Pump Corp., Davenport, Iowa., and the Micro Corp., Bettendorf, Iowa, have been consolidated as Micro-Westco, Inc. Offices will be in Bettendorf.

The National Tool Co., Cleveland, Ohio, has appointed E. J. Lees, formerly of the Lees-Bradner Co., chief engineer in charge of engineering and research.

W. C. Norris, manufacturer of pumping equipment, is planning construction of a steel warehouse and doubling the capacity of the machine shop on the Frisco right of way in Tulsa.

Macwhyte Co., Kenosha, Wis., manufacturer of wire, wire rope and slings, has appointed the Intermountain Belting & Packing Co., Denver, Colo., its distributor in Denver territory.

The Larkin Packer Co., Tulsa, has opened a store in Hobbs, N. Mex., carrying a complete line of floating equipment, swage-nipples and bullplugs, clamps, packers and all the other devices it manufactures. This store is under the direction of B. W. Stevens, with headquarters in Midland, Tex., and who operates the Larkin store in Odessa, Tex.

Julius Kahn, president of Truscon Steel Corp., since he founded it 33 years ago, has resigned to become vice president in charge of product development of Republic Steel Corp., Cleveland, Ohio.

Morris Machine Works, Baldwinsville, N. Y., following the death of Windsor Morris, has chosen Carl Lager president and Pierce J. McAuliffe vice president and general manager. Mr. Lager joined the organization as its chief engineer 46 years ago and has been active in the development of centrifugal pumps.

Bennett Chapple, vice president and director of the American Rolling Mill Co., Middletown, Ohio, has appointed Harry V. Mercer advertising manager.

Has Novel Control System

Based on its newly developed cross-field principle, a new welding generator for belted or coupled welding sets with a novel control system producing superior arc quality and eliminating rheostat, resistors, meter, reactor and exciter is announced by Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa. Due to its design the welding current is unaffected by the ordinary speed variations of the driving unit. The new 200-, 300- or 400-ampere generator with a new system of control allows the operator to adjust the generator to give the welding current required before the set is started, thus eliminating the trial-and-error methods usually used.

Protection for Equipment

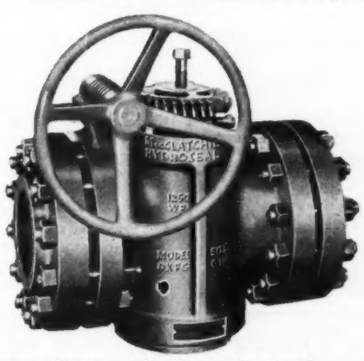
Sarco "self-cleaning" strainers for pipe lines are announced by Sarco Co., Inc., 183 Madison Avenue, New York, as effective insurance against injury to intricate equipment and costly interruption of service. A modification of the well-known pipe line strainer is fitted with a plunger or rotary scraper within the cylindrical screen, making it possible to clean the screen without removal.

Without Lost Time Accident

The D. + B. division of the Emsco Derrick & Equipment Co., Los Angeles, Calif., celebrated May 14 its fifth consecutive year without a lost-time accident. This period represented a total of 720,009 working hours and credit for this record is given to the shop safety committee as well as to the cooperation of the employes as a group.

No Packing or Packing Glands Used in Hydro-Seal Valve

MacClatchie Manufacturing Co., Compton, Calif. is making its new "Hydro-Seal" plug valves



in screw, flange and union ends, hand- or gear-operated for working pressures from 250 pounds to 3,000 pounds. Because of their grease expanded metal lips no packing or packing glands are used, thus eliminating unnecessary friction. The picture shows a 6-inch gear-operated model.

Tymeter Replaces Stop-Watch in Refinery Laboratories

The Tymeter, manufactured by M. J. Stillman Co., Inc., 116 South Michigan Avenue, Chicago, is the result of many years in the production of timing instruments for the industrial field. It replaces stop-watches in refinery laboratories in viscosity testing. Its application covers timing of various

industrial operations, cost determination and manual or mechanical operations, laboratory and research work.

The Tymeter operates with a sturdy synchronous motor specially constructed and its power is obtained from 60-cycle, 110-volt alternating current. The case is of die-cast aluminum with a black crackle finish. The starting and stopping switch permit time to be taken out by stopping the machine and again starting without going back to zero. The knob on the left side is used for returning all figures to zero. When all figures are cleared the knob drops into a locked position.

"Silmo" Is New Timken Steel

The Timken Steel & Tube Co., Canton, Ohio, has announced a new steel designated as "Silmo," especially designed for applications where an economical combination of high-temperature strength and oxidation resistance is required. In the temperature range of 1,000 to 1,200° F. "Silmo" steel is said to have about twice the strength of carbon steel and its oxidation resistance compares with that of 4-6 per cent Cr-Mo steel. This new steel may be used to replace carbon steel where greater safety is required and as a substitute for the standard carbon molybdenum steel where oxidating conditions are encountered. Indicated uses for "Silmo" steel lie in the field of cracking furnace tubes, pipe-still heater tubes, high-pressure boiler and superheater tubes, and tubing used in the manufacture of air-heating equipment. Complete physical data on "Silmo" steel may be obtained from the company.

New Recorder-Controller

The Bristol Co., 330 West Forty-second Street, New York, announces a new series of pneumatic-type controllers designated as Ampliset free-vane controllers. These instruments are now available for automatically controlling temperature, time-temperature, flow, liquid level, pressure, time-pressure, and humidity. The Ampliset principle has been combined also with the Metameter, a system of telemetering recently announced by this company, for the remote control of steam pressure and gas pressure. Bristol's Ampliset controllers operate on the basic free-vane principle employed by the Bristol Co. for many years. Certain features of field adjustability have been added to the time-proved free-vane system, whereby its sensitivity can be changed with a small screwdriver exactly to fit the lag peculiarities of the process on which it is used.

Rodessa Injunction Stands

SHERMAN, Tex., June 8.—A motion to set aside the injunction restraining movement in interstate commerce of 60,000 bbls. of Rodessa crude in possession of the East Texas Pipe Line Co. and East Texas Refining Co. was denied Saturday by Federal Judge Bryant.

Attorneys for the companies filed the motion citing testimony given at Tyler recently by John J. Thomas, vice president of the concerns, that the companies received at their Longview plant and the Falvey station in Gregg County during the period from March 26 to May 16, 304,525 bbls. of Rodessa crude, while the total allowable from wells to which their pipe lines were connected was 305,699 bbls.

In answer, Richard H. Hill, special federal attorney, contended the companies had moved, in addition to the 304,525 bbls., 139,000 bbls. through Jefferson, Texas, and back to Louisiana.

Judge Bryant overruled the motion saying the facts submitted by the companies did not change the situation.

Tax on Fuel Oil

A million or more home and apartment owners are faced with increased heating costs of about $25,000,000 annually through the proposed federal tax of 1 cent a gallon on fuel oil according to the Western Petroleum Refiners Association. The bill assessing the heavy tax is now before congress and its passage is being strongly protested as an unnecessary increase in living costs.

Churches, schools and office buildings with oil heating plants would also be subject to the increased heating costs. Railroads and shipping interests would have their fuel costs increased about $28,000,000 and the total cost of the heavy taxation on fuel oil has been estimated at about $150,000,000 annually.

The purpose of the bill according to Congressman Boland, representing coal areas of Pennsylvania, is to force the use of more coal and less oil for heating and power. Economists point out that the bill would interfere with conservation plans of the oil industry as it would discourage use of a petroleum product which is manufactured simultaneously with gasoline and lubricating oil.

George Bruce, oil operator of Wichita, Kans., has recovered from injuries received in an automobile accident and is back at work.

CLASSIFIED ADVERTISING

For Sale—Maps

OFFICIAL NOMENCLATURE MAP OF COLORADO

SHOWS: Oil fields in green and gas fields in red, hand-colored. Index giving location of each field and official name. Cities, towns, county seats and principal streams.

SIZE: 42" x 50". SCALE: 1" = 8 miles.

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Oilfield and County Ownership Maps. New price list on request. Send $1.00 for map of Texas and eastern New Mexico.
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Leases—Production

Write for oil properties, drilling blocks, leases, in new Louisiana fields. G. Lucas, 208 Milam Street, Shreveport, La.

Leases—Production

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

NEW MEXICO Oil and Gas Leases and Royalties. Also inquiries and listings wanted. F. R. WARN, Santa Fe, New Mexico.

DRILLING BLOCK Young County, Texas, 100 acres top of structure; 750 ft. first oil sand; 40 gravity oil; cheap drilling near producing wells.
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FOR SALE Oil & gas leases in proven territory and on leases adjoining new production where drilling is now being done, also leases for drilling contracts one or more wells. W. P. HARLEY, Bowling Green, Kentucky.

LANDS, Leases, Royalties, anywhere, bought, sold. Lands, $2 acre, up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

½ int. 1,000 a. oil and gas leases S.W. Ind. and first well $2,500. Perfect geol. approved loc. near prod. F. M. Pierson, Box 748, Terre Haute, Indiana.

FOR SALE—40,000 acres oil leases in Kit Carson, Cheyenne and Kiowa Counties, Colo., 10 yr. leases 25c per acre rental, rentals paid for 1 yr. I furnish leases anywhere in Colo. or Kans. A. P. Tone Wilson, Burlington, Colorado.

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30,000 Acres to Choose From
Will Sell 40 Acres or More at a Time
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Over 500 tanks on hands from 500 bbls. to 80,000 bbls. Ready for delivery. 50—55,000 Bbl. tanks now being cut down, Haynesville, La. These tanks all built new 1924 and are extra heavy, weighing 20 tons more than standard tank.

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FOUR Lincoln Engine driven arc welders, A-1 condition. Stationary type. Service Co., 3732 Cedar, Cleveland, Ohio.

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Several Steel Derricks & Rotary Equip.
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25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air Compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
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125,000 feet 8'
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BARGAINS—Demonstrator Arc Welders. Gasoline and electric drive. 30 days' trial. Easy terms if desired. Write Ken's Exchange, Box OG-661, Troy, Ohio.

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FOR SALE—Brewster County Ranch, fine hunting, carry eight hundred head cattle, unusually well watered. Price $30,000.00. R. R. Stolley, Austin, Texas.

W A N T E D

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5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

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15—Dallas, Tex., Dixie Interstate Board, Adolphus Hotel.

17-20—Dallas, Tex., American Society of Mechanical Engineers.

18-19—State College, Pa., Pennsylvania Grade Crude Oil Association, thirteenth annual meeting.

June - July

29-July 3—Atlantic City, N. J., American Society for Testing Materials, annual meeting, Chalfonte-Haddon Hall.

July

31—Dallas, Tex., Interstate Oil Compact Commission meeting.

September

?—Tulsa or Oklahoma City, American Petroleum Institute, Division of Production, Mid-Continent district.

9-10—Louisville, Ky., Kentucky Petroleum Marketers Assn., Brown Hotel.

16-18—Atlantic City, N. J., National Petroleum Association, thirty-fourth annual meeting, Hotel Traymore.

7-12—Pittsburgh, Pa., American Chemical Society, semiannual meeting.

7-12—Washington, D. C., World Power (Fuel) Conference.

October

?—Cleveland, Ohio, American Institute of Mining and Metallurgical Engineers.

November

9-12—Chicago, American Petroleum Institute seventeenth annual meeting.